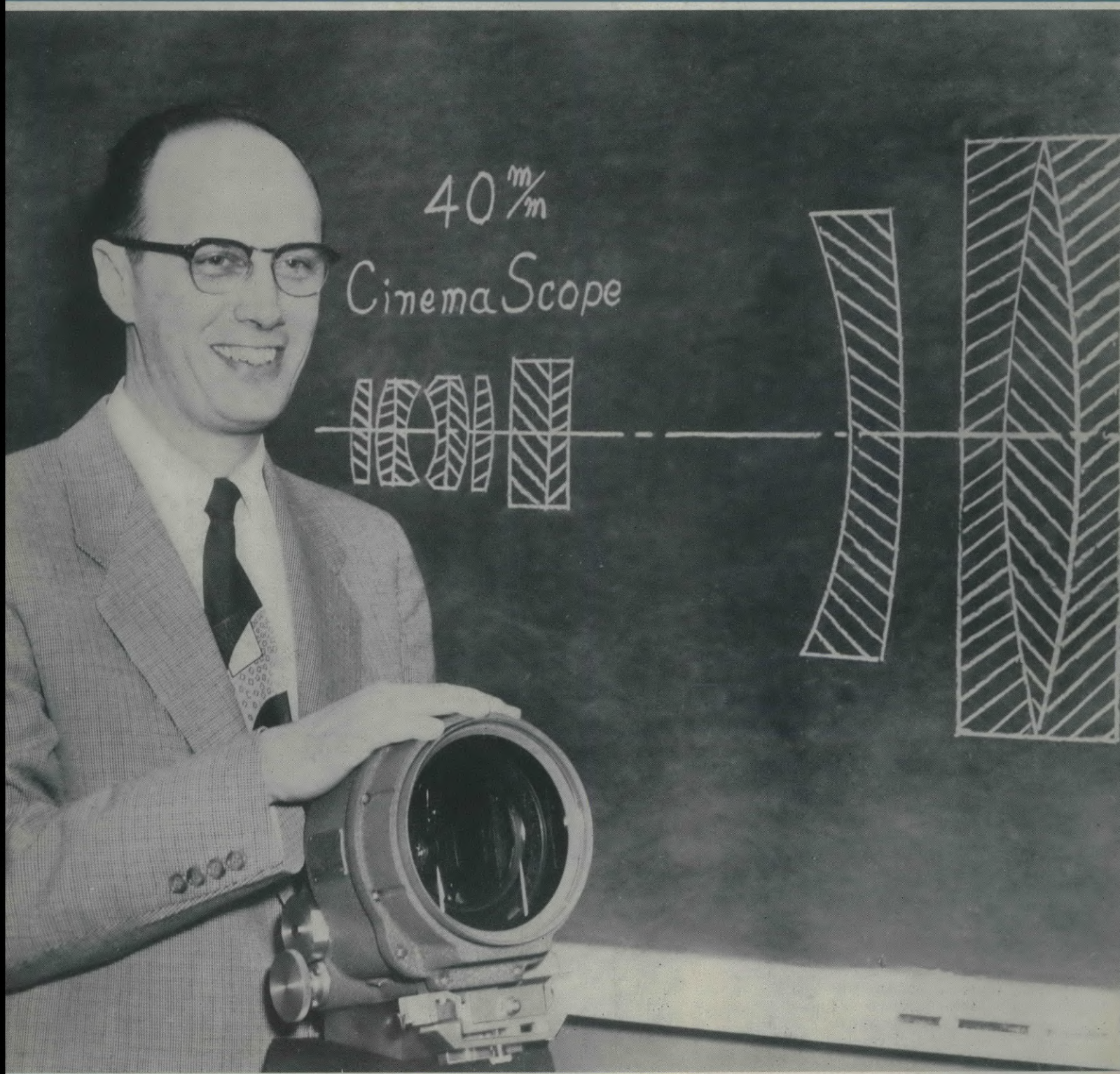


AMERICAN

JULY • 1954

# Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY



*This Issue ...*

- Tri-X—New Eastman Highspeed Negative Film
- Cukoloris—Most Versatile Set Lighting Tool

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Mr. McWayne (right) "talking shop" with John B. Phy, Du Pont Technical Representative. "John keeps us up to date on the latest developments... his advice and quick service have helped us many a time."

Another fast, comfortable trip via United—McWayne, (extreme left) grinding out publicity footage on 931A. "We've found its exceptional latitude meets an unusually wide range of lighting conditions."



# "With Du Pont 931A, we can handle the toughest jobs-expected or not"

Reports James E. McWayne, Supervisor, United Air Lines' Photo Laboratory, Chicago, Illinois

"In shooting TV newsreel footage and publicity jobs, we often run into fickle lighting and weather. Then, *everything* depends on the film. It has to deliver—even when there's no chance for retakes. That's why we use Du Pont 931A for all black-and-white work. It enables us to handle the toughest jobs—expected or not.

"Like that one last winter, when a VIP was due in on the 7 P.M. flight. Pitch dark . . . so we set up a battery of photofloods to cover the story. The flight was on time and all went well until our celebrity appeared in the doorway. Then—a fuse blew! Out went the floods, leaving us only three 500-watt bulbs—and they were 90 feet away!

"Really tough . . . but there was nothing to do but keep shooting. I opened the lens to F. 1.4, slowed down from 24 to 16 frames and completed the

'take.' In rushing the film to WGN-TV for processing and presentation, I warned 'em that it was underexposed: 'Better overdevelop it!' Certainly felt good when they phoned back and said it was perfect, completely usable. Seemed almost impossible.

"That's why, when conditions are tough, we leave it up to the film. If 931A can't handle the job, we know it can't be handled!"

So test Du Pont 931A Rapid Reversal Pan on *your* next assignment. Check its speed. Note how its rugged emulsion resists reticulation and staining. And how fine grain, long tonal range and sharp gradation combine to produce clean-cut pictures and

crystal-clear sound. For the complete story, contact your Du Pont Technical Representative or nearest district office listed below. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington 98, Delaware. *In Canada: Du Pont Company of Canada Limited, Montreal.*

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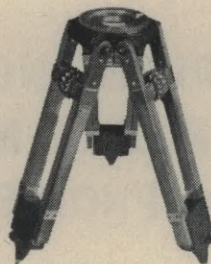
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action"

SMALL **GYRO**  
TRIPOD

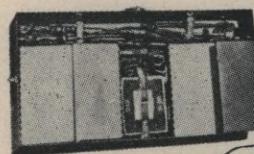
Two speeds—slow and fast  
—for both panning and tilting.  
Helps you capture fine scenic views  
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cially recommended for 16mm Mitchell,  
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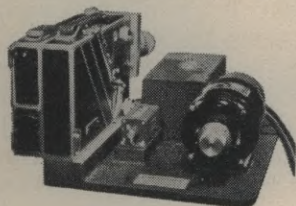


Imagine being able to use two 5000 watt units  
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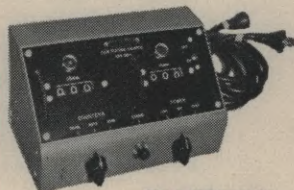


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90 feet per minute . . . or both  
in synchronization.

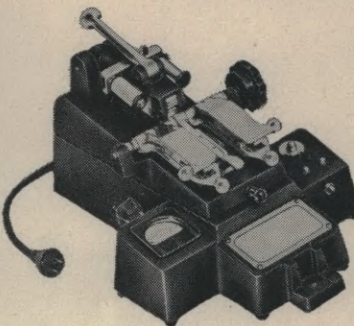
**\$95**

Single model, either 16mm or  
35mm

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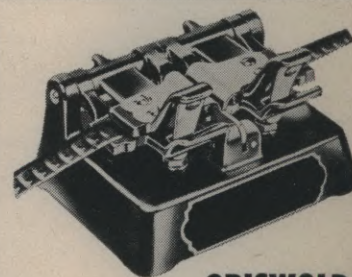
GIVES PERMANENT SPLICE  
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\*9.5mm Lenses in 16mm C mount. 18.5mm (extreme wide angle-flat field)  
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Richardson, Century and Colortran Lighting Equipment.

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# important news

*from the manufacturer of the World's Finest Camera*

## NEW PRODUCTION SCHEDULES NOW PERMIT → IMMEDIATE DELIVERIES OF MITCHELL 35mm BNC...35mm NC...16mm PROFESSIONAL CAMERAS

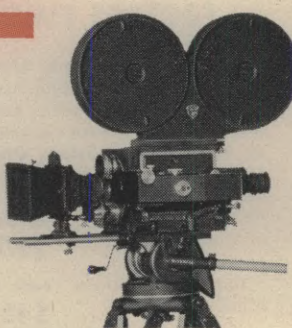
It is impossible to compare a Mitchell with any 35mm or 16mm camera now in existence—for the **history-making Mitchell is the only truly professional motion picture camera.** Exclusive professional operating features plus the smooth trouble-free Mitchell movement, with its .0001 inch tolerances, can insure the success of your film making as can no other single element of production.

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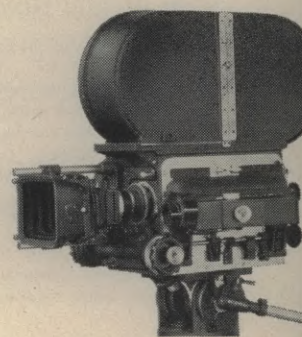
**Write today** for information and prices of the currently available 35mm BNC, NC and 16mm Professional Mitchell Cameras and accessories.



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MITCHELL 35mm BNC CAMERA

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# AMERICAN Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY  
PUBLICATION OF THE AMERICAN SOCIETY OF CINEMATOGRAPHERS

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VOL. 35

JULY • 1954

NO. 7

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### ON THE COVER

SHOWN AGAINST a blackboard diagram of a new 40mm CinemaScope camera lens is John D. Hayes, head of the photographic department of Bausch & Lomb Optical Co. He holds the first of the new CinemaScope lenses, shipped recently to 20th Century-Fox. The complex 12-element lens was developed under Hayes' direction. The 40mm lens is first of a complete range of focal lengths up to 152mm now under development. Its attributes include improved resolving power, much less distortion, enhanced definition and improved color correction.

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important man  
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You ....*

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Cinematographer



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# Hollywood

## Bulletin

## Board



ERIC M. BERNDT, president of Berndt-Bach Corp., makers of Auricon cameras, shows some of his vast collection of early-day motion picture cameras. He is a Founder-member of the Society of Cinema Collectors and Historians, Consultant-editor of its Journal.

Earl I. Sponable, Research Director, 20th Century-Fox Studios, was elected to an Associate Member of the American Society of Cinematographers last month.

James VanTrees, ASC, has been signed by Volcano Productions to direct the photography of two TV film shows: "The Joan Davis Show," and the new "Mickey Rooney" show. VanTrees formerly directed the photography of "You Bet Your Life" show, featuring Groucho Marx.

Frank Zucker, ASC, president of Camera Equipment Co., New York City, was a recent Hollywood visitor, following his return from a tour of motion picture production centers in Europe. Besides manufacturing and distributing a wide range of camera and motion picture equipment, Zucker's organization also supplies most of the TV and industrial film makers in the New York area with camera and grip equipment, through its rental department.

ASC'S June Meeting featured discussions on the Photographic Quality Necessary for Best TV Films. Guests of the Society were prominent engineers and technicians in the television industry, including G. P. Wyland and Ed Miller, CBS-TV; Roy White, KTLA; Philip Caldwell, ABC-TV; Jack Burrell and Oscar Wick, NBC-

TV; Edward Benham and Farrell Quigley, KTTV; and Marvin Wentworth and James Massey of KCOP.

Informal discussions concerned the employment of black and white references in each TV film scene as a contrast key for TV's electronic reproduction system; factors contributing to picture degradation in TV film transmission; and the role of the "knob twister" in the transmission system and his effect on the ultimate picture quality of TV films.

In a joint meeting earlier in the month at NBC's El Capitan theatre in Hollywood, ASC members were guests of the SMPTE which held a symposium on the factors necessary to produce motion pictures that render maximum quality in TV transmission.

Brief portions of three popular TV film shows were projected while the same shows were transmitted simultaneously via a duplicate film over closed TV circuit, which afforded a comparison of TV picture with screened picture of same program.

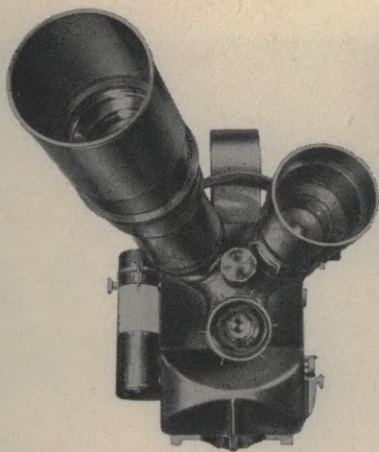
Guest ASC panelists included, Hal Mohr, Walter Streng, and Norbert Brodine.

Hal Mohr, ASC, as a representative of the industry's cinematographers, was elected assistant treasurer of Motion Picture Arts and Sciences last month. Mohr has been directing the photography of the Joan Davis TV film shows, and recently was signed to photograph a new TV film series, "Life With Father," for McCadden Productions.

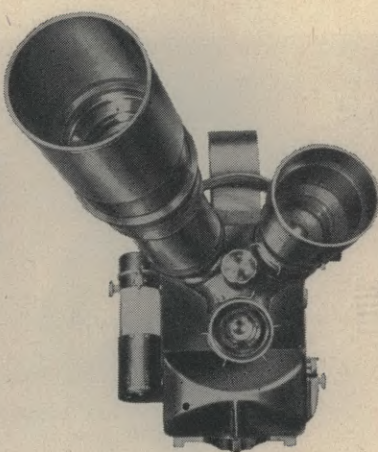
Continuing on the Board of Governors of the Academy for another term is another member of the ASC—John W. Boyle.

Philip Tannura, ASC, who photographs the "Burns and Allen" TV film shows for McCadden Productions, will probably undertake a second show for the same producer. He recently photographed the pilot production of the new Robert Cummings TV film series.

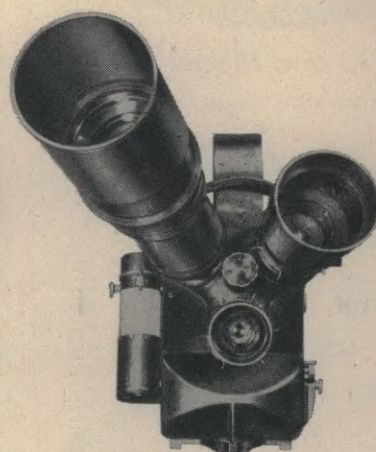




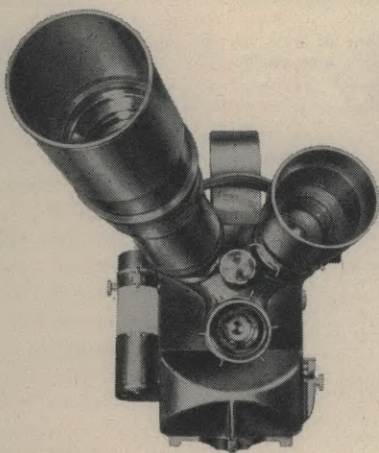
**35 and 16/35 mm**



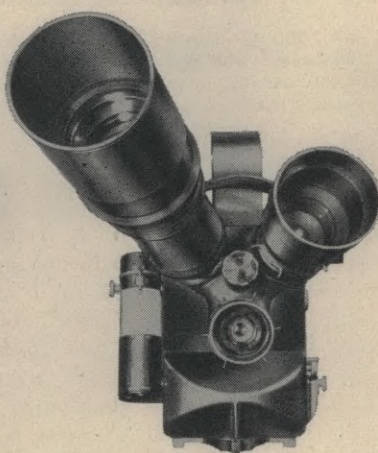
**reflex viewing**



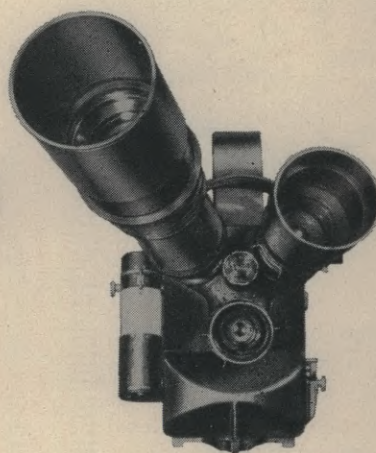
**divergent turret**



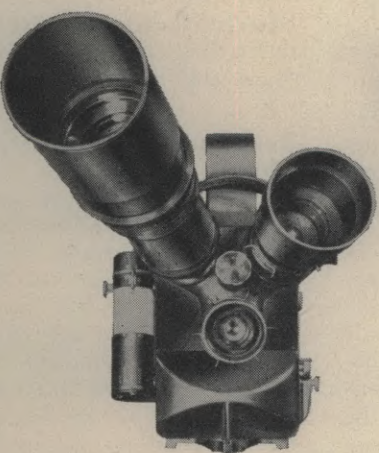
**40° to 200° adjustable shutter**



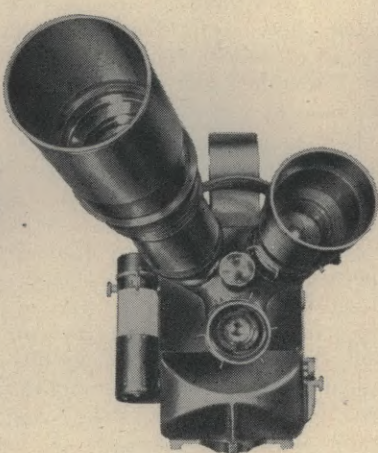
**lightweight — 14 lbs.**



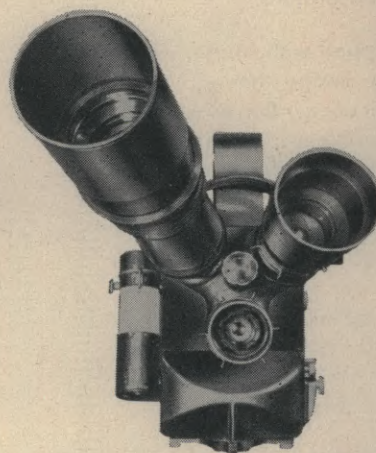
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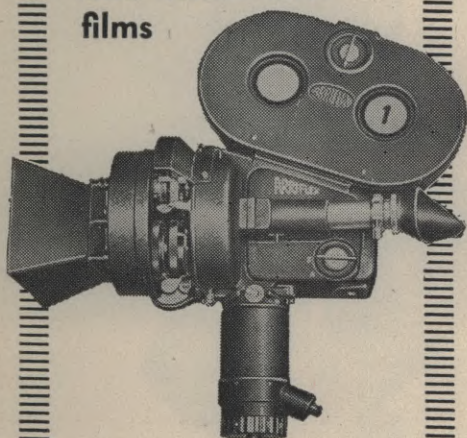


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New 35 mm Model 2A  
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For tough and trying assignments, ARRIFLEX 35 is in a class by itself. Reflex focusing through photographing lens while camera is operating—this is just one outstanding ARRIFLEX feature.

Equipped with bright, right-side-up image finder,  $6\frac{1}{2} \times$  magnification. Solves all parallax problems. 3 lens turret. Variable speed motor built into handle operates from lightweight battery. Tachometer registering from 0 to 50 frames per second. Compact, lightweight for either tripod or hand-held filming. Takes 200' or 400' magazine. Write for free folder.

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## CLOSEUPS

Notes and  
editorial comment



AT TODD-AO DEMONSTRATION—Pioneers of new process get together. From left: Fred Zinneman, who will direct "Oklahoma!", Richard Rodgers, Oscar Hammerstein, Michael Todd, and Dr. Brian O'Brien. The Todd-AO camera stands behind Rodgers. (We hope to have a better view of camera plus detailed story for readers next month.)

Super wide-screen processes made news in Hollywood last month when 20th Century-Fox, with its CinemaScope, and Todd-AO, with its single wide-film (65mm) process gave demonstrations before press and industry heads on the same day—June 23rd.

In the morning, at the Chinese Theatre on Hollywood Boulevard, Fox studio had summoned top press representatives and industry engineers and technicians to witness its demonstration of new and improved CinemaScope photography. That it was impressive is an understatement. It was terrific. It was the finest selling job ever undertaken by any motion picture studio.

It demonstrated many things, not the least important the fact that Fox, together with Bausch & Lomb, has refined the CinemaScope camera lens to a point where now the most superb photographic quality is being obtained by the studio's directors of photography. Today, there is no comparison between the crude results obtained with the first anamorphic lens used in filming "The Robe" and the newer improved CinemaScope lenses, now available in a variety of focal lengths. (See cover photo.)

Twentieth Century-Fox, by this historic demonstration of the process it pioneered and pushed to its present pinnacle of success, left little doubt about the future of CinemaScope as the motion picture medium and format of tomorrow.

The dynamic force behind it all, of course, is the team of Darryl Zanuck and Spyros Skouras. But the real success of the system depended upon a single new piece of equipment—the anamorphic CinemaScope lens. Right from the beginning two men set to work to improve it. They were Sol Halprin, ASC, and Earl Sponable, ASC, photographic department chief and research engineer respectively of 20th Century-Fox. These men, along with John D. Hayes and others at Bausch & Lomb Optical Company, are due a large measure of credit for the "new look" in CinemaScope.



Hollywood had scarcely caught its breath following the CinemaScope demonstration than it was subjected to still another revelation in super-wide-screen processes—Todd-AO. This took place on Stage 2 at MGM studios where the Todd-AO organization is headquartered for the duration of its "Oklahoma" production.

First announced 18 months ago, but seen only by a very few top industry figures, Todd-AO, inspired by Michael Todd, and developed by Dr. Brian O'Brien and the American Optical Company, is a sensational super-wide-screen process on the order of Cinemascope, but without the annoying seams and tri-sectional picture. Only one camera employing 65mm film is used. We hope to bring readers a full report on the system in next issue.—A.E.G.



# THERE IS A HOUSTON-FEARLESS FILM PROCESSOR FOR EVERY NEED!

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Only a few of the many Houston Fearless models are shown here. For complete information on the type of equipment best suited for your particular needs or for help on your special requirements and problems, send the coupon below. Houston Fearless engineers will recommend what is most appropriate and, if desired, plan your entire film processing lab for maximum efficiency and highest quality results.

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# NOW GREATER

THE NEW MODEL IIA

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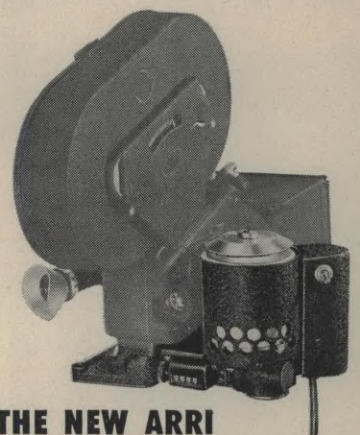


With the new Model IIA, the Arriflex 35 attains undisputed first place among all 35mm hand cameras in the professional field. Easily convertible into an efficient studio camera, its versatility is amazing. In addition to the many features which made the earlier model a favorite among top-ranking cameramen, the improvements and engineering advances embodied in the new Model IIA, make the Arriflex 35 greater than ever.



### FAMOUS ARRIFLEX FEATURES IN THE NEW MODEL IIA

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- Matte Box-Filter Holder — quickly and easily detachable.
- Three-lens Revolving Turret.
- Perfect for tripod and handheld filming.



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A smooth-running, constant-speed hysteresis motor for 115-volt, 60-cycle AC operation. Motor is mounted on base-plate housing containing the gear mechanism which connects directly to the main drive-shaft of the camera. Motor Unit has a built-in tripod socket and a built-in footage counter. A safety slip-clutch automatically disengages the motor should the film 'jam'.

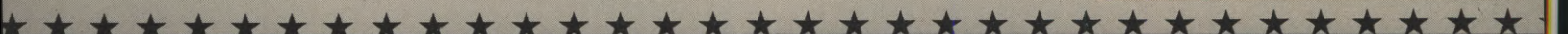
The Synchronous Motor Unit is easily and quickly attached to the camera without the need for special tools.

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**NEW**  
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# THAN EVER

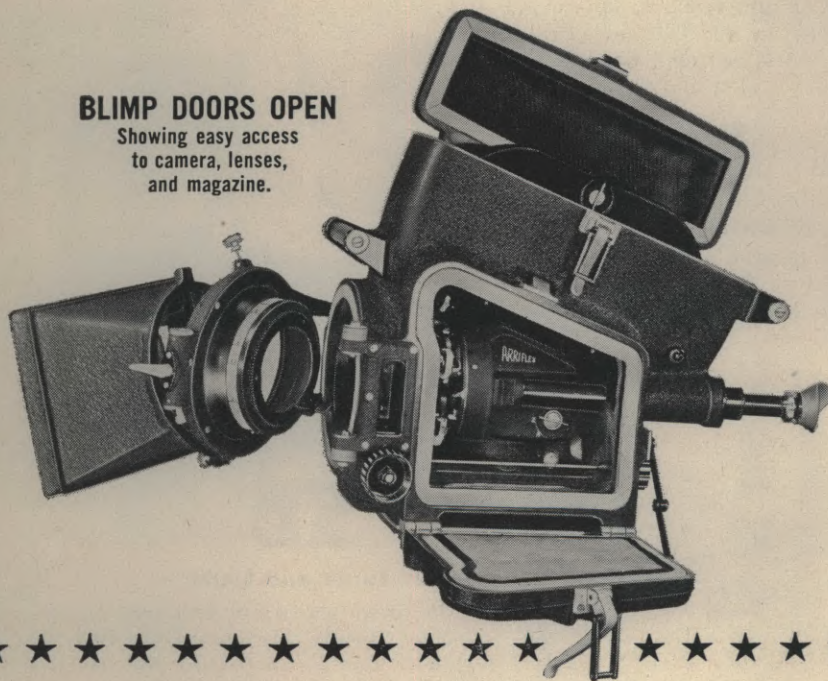
## The NEW ARRI® Sound-Proof Blimp for ARRIFLEX 35

Designed for the Arriflex 35 with 400-foot Magazine, and Synchronous Motor Unit. Blimp housing is cast magnesium alloy, finished in black crackle.

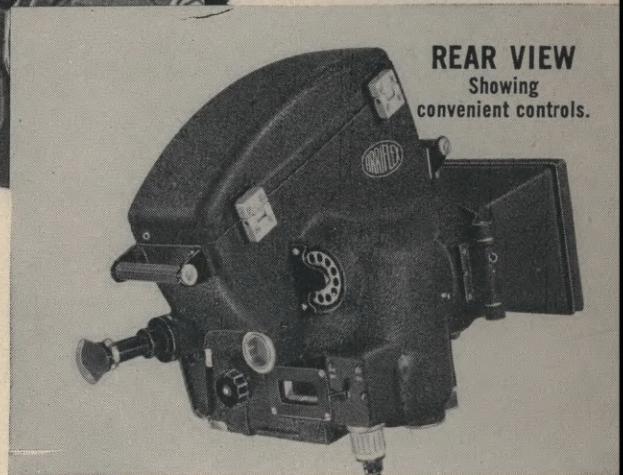
The most advanced accoustical damping techniques have been employed. Internal walls are lined with corduroy velvet over six alternate layers of foam plastic and lead. For complete soundproofing, all door members are sealed with foam rubber gaskets, and close by means of heavy, 'knee-action' clamp locks. Camera is cushion-mounted.

### BLIMP DOORS OPEN

Showing easy access to camera, lenses, and magazine.



### REAR VIEW Showing convenient controls.



The important reflex-viewing feature of the Arriflex 35 is still retained while it is used in the Blimp. The regular cover and optical system is removed from the camera and replaced with a special cover which connects to the optical viewing system built into the Blimp. Follow-focus is then accomplished by means of either of two controls... located at the front side and in the back of the Blimp. These controls connect directly to the focusing mount of any lens in taking position,

equipped with Arri Follow-Focus Grips. No gears are required around the lens mounts.

An oversized focusing scale for any lens in use can be set behind, and viewed through the control window located over the focusing knob. Other observation windows are conveniently located to permit viewing the footage counter and checking the tachometer. The lens window is made of optically flat glass, shielded by a detachable matte box.

Two heavy-duty handles facilitate lifting and carrying. A Fingertip Dial permits shutter to be 'turned over' manually for preliminary focusing. A hook is provided in the exact film plane for attaching a measuring tape. A pulsating pilot light indicates that the camera is in operation.

Weight of Blimp with Arriflex 35, lenses, Synchronous Motor Unit, and 400-foot Magazine is approximately 55 pounds.

Write for Complete Details to:

KLING PHOTO CORPORATION

235 Fourth Ave., New York 3, N. Y. • GRamercy 5-1120

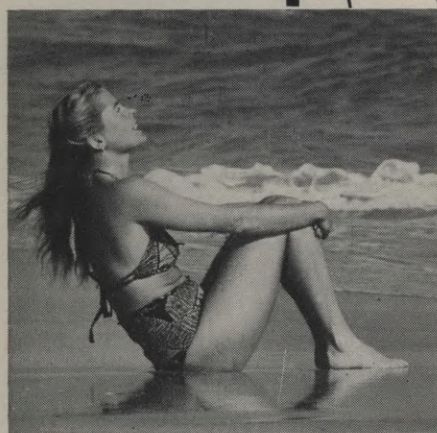


# WHAT'S NEW

... in equipment, accessories, service



"Impossible" distances become close-ups



with **ASTRO**<sup>®</sup>  
**LONG DISTANCE LENSES**  
FOCAL LENGTHS TO 1000 mm.!

Used by the world's foremost explorers, scientists and news services, Astro lenses have been making photographic history all over the globe. Special formulas have produced resolving powers up to 100 lines to the mm. And these superb lenses are fast enough for action color work—focal lengths from 300 to 800 mm. rated at F/5, the giant 1000 mm. (40 in.) at F/6.3.

**FOR STILL CAMERAS** Leica, Exakta, Primar-Reflex, Master Reflex, Hasselblad, Praktica, Contax-S

**FOR MOVIE CAMERAS** 16 & 35 mm. Bolex, Mitchell, Eyemo, Debrie, Askania, E.K., Arriflex, etc.

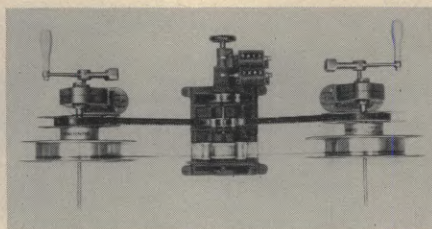
**DUAL PURPOSE MOUNTS** allow interchanging movie and still.

**SUPER SPEED TELEPHOTOS**  
5 in. F/2.3  
6 in. F/2.3  
6 in. F/1.8

**NEW!** 12-inch F/3.5 Astro in mounts for all movie and still cameras. **NEW GAUSS TACHARS**—focal lengths 25-32-40-50-75-100 mm.; all F/2, in mounts for practically all 16 and 35 mm. professional and amateur cine cameras.

Write for brochure and prices

**ERCONA CAMERA CORP., Dept. A-25,**  
527 Fifth Ave., New York 17, N.Y.

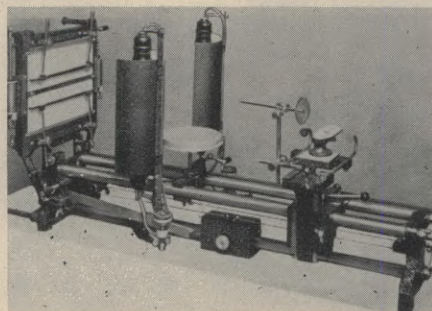


## Differential Rewind

S.O.S. Differential Rewind Gimmick is tradename of new device which rewinds 16mm and 35mm reels of film simultaneously, regardless of size of film reels. The Gimmick is placed on any standard keyway rewind spindle and provides a slip-clutch extended spindle for the secondary reels of film, as pictured above. Priced at little more than a pair of film rewinds, device is being marketed by S.O.S. Cinema Supply Corp., 602 West 52nd St., N. Y. City.

## Baby Tripod

An adjustable wood Baby Tripod for Professional Jr. friction and gear heads is available from Camera Equipment Co., 1600 Bdwy., New York City. Tripod has sturdy shoe and spur; measures 25" extended, 17" collapsed.



## Titler and Effects Kit

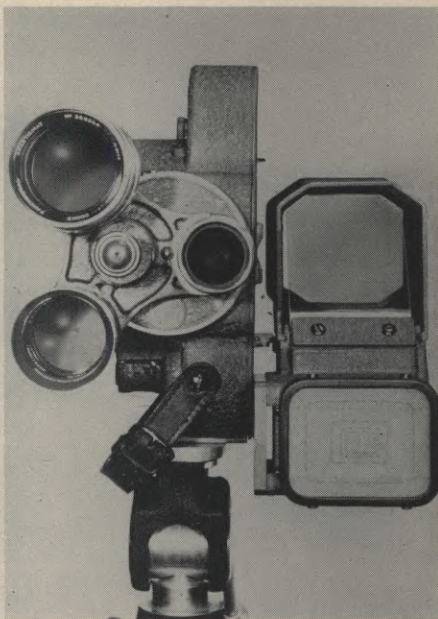
Designed for 16mm and 35mm professional use is a new titler and special effects kit capable of producing a wide range of titles, trick films, cartoons, and animation. Equipment provides either horizontal or vertical operation, and has a table adjustable north, south, east or west. Front and rear illumination also is provided.

Three models are available which include complete kits of accessories, offering a choice of title board sizes from 5 1/8" x 7 1/8" to 7 1/8" x 9 1/2".

Prices range from \$159.50 to \$295.00. Distributor is S.O.S. Cinema Supply Corp., 602 West 52nd St., New York City. Descriptive brochure available.

## Film Processors

A film processor for every possible type of 16mm or 35mm film production operation, color or black-and-white, is offered by Houston-Fearless Corp., 11809 W. Olympic Blvd., Los Angeles 64, Calif. Complete detailed information on company's many models may be had by writing the manufacturer on your company letter-head.



## Spider Turret and Finder

Pictured above are two new accessories recently introduced by Bell & Howell Co. for use with the 70-DL camera: 1) a Spider Turret which takes any three lenses from 0.7 to 6 inches in focal length, and 2), the Sports Finder, which was originally developed for the Air Force. Having 1, 2, 3, and 4 inch field clearly marked, finder permits cameraman to see action outside the taking area. Price of turret is \$85.00; the finder is \$125. Both are factory installations.

## Stereo Sound Integrators

A new stereophonic sound system for  
(Continued on Page 326)





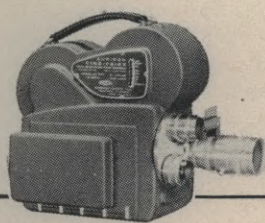
**Auricon  
Hollywood**

*You are Invited  
to Visit...*

the New Hollywood Home of

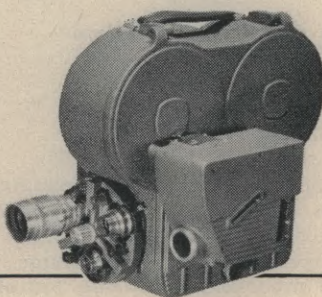
**AURICON**

16mm Sound-On-Film Cameras!



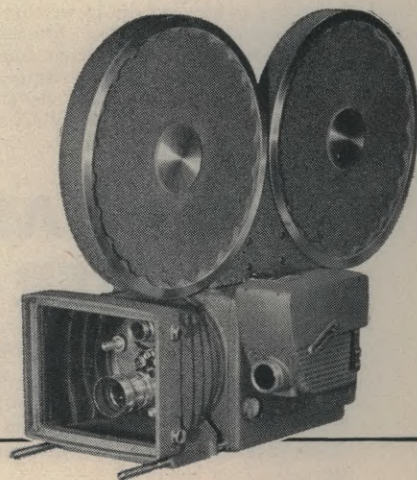
**"CINE-VOICE"**

16mm Optical Sound-On-Film Camera. 100-ft. film capacity for 2¾ minutes of recording; 6-volt DC Converter or 115-Volt AC operation. \$695 (and up).



**"AURICON-PRO"**

16mm Optical Sound-On-Film Camera, for black & white or color filming. 200-ft. film capacity for 5½ minutes of recording. \$1310.00 (and up).



**"SUPER 1200"**

16mm Sound-On-Film Camera. 1200-ft. film capacity for 33 minutes of recording. \$4652.15 (and up) complete for "High-Fidelity" Talking Pictures.

Auricon Cameras are now in use by Television Networks, Film Studios, Newsreels and Educational Producers, for filming quality pictures in natural color or black & white. Come in for a demonstration or write for free Catalog.

The new Hollywood home of Auricon is a completely modern plant, designed and equipped to serve you better. New engineering, manufacturing and test facilities assure you of the latest and finest in precision 16mm Motion-Picture Cameras. World-wide acceptance and enthusiastic approval of Auricon Equipment makes this new plant possible.

**All Auricon equipment is sold with a 30 day money-back guarantee. You must be satisfied! Write today for free illustrated Auricon Catalog.**

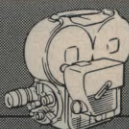
**AURICON**  
**BERNDT-BACH, INC.**

6902 Romaine Street, Hollywood 38, Calif.

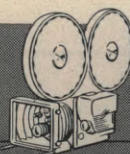
*The* **Auricon  
Hollywood** *Line*  
SOUND-ON-FILM EQUIPMENT SINCE 1931



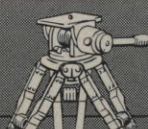
CINE-VOICE



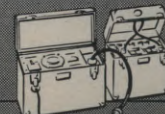
AURICON-PRO



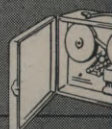
SUPER 1200



TRIPOD



PORTABLE POWER UNIT



SOUND REC

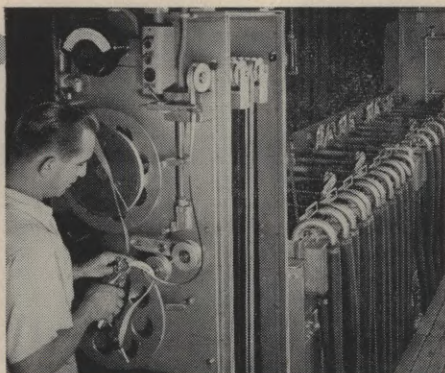


# Precision Prints

**YOUR PRODUCTIONS  
BEST REPRESENTATIVE**

## CLOSE CHECK ON PROCESSING

Picture and sound results are held to the closest limits by automatic temperature regulation, spray development, electronically filtered and humidity controlled air in the drying cabinets, circulating filtered baths, Thymatrol motor drive, film waxing and others. The exacting requirements of sound track development are met in PRECISION'S special developing machinery.



## YOUR ASSURANCE OF BETTER 16mm PRINTS

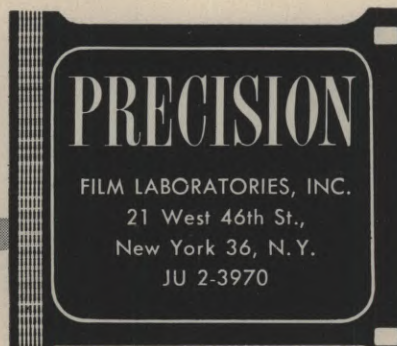
**16 Years Research and Specialization** in every phase of 16mm processing, visual and aural. So organized and equipped that all Precision jobs are of the highest quality.

**Individual Attention** is given each film, each reel, each scene, each frame — through every phase of the complex business of processing — assuring you of the very best results.

**Our Advanced Methods** and our constant checking and adoption of up-to-the-minute techniques, plus new engineering principles and special machinery enable us to offer service unequalled anywhere!

**Newest Facilities** in the 16mm field are available to customers of Precision, including the most modern applications of electronics, chemistry, physics, optics, sensitometry and densitometry — including exclusive **Maurer-designed** equipment — your guarantee that only the *best* is yours at Precision!

*Precision Film Laboratories — a division of J. A. Maurer, Inc., has 16 years of specialization in the 16mm field, consistently meets the latest demands for higher quality and speed.*

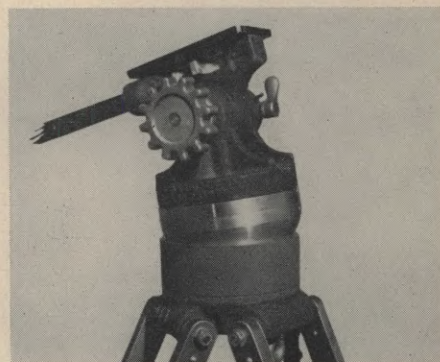


## WHAT'S NEW

... in equipment, accessories, service

theatres which produces three-speaker sound from a single, standard optical sound track, has been developed by Fairchild Recording Equip. Co., White-stone, L. I., New York.

The Fairchild integrator first separates the low-frequency tones from speech and music in a track, then modulates the volume of each speaker continuously in relation to the amplitude of each low-frequency tone, producing a true, stereophonic effect.



### Tripod Swivel

A swivel ball joint attachment for the Professional Junior and Mitchell "16" motion picture camera tripods is offered by Kadisch Camera & Sound Eng. Co., 500 West 52nd St., New York City. Addition of the swivel converts tripod to all-directional pan and tilt action. As pictured, unit is mounted between head and tripod—a simple matter for anyone; no tools required. Attachment is made of aluminum, weighs approximately 3½ pounds. Further details and prices may be had by writing manufacturer.

### Collapsible Dolly

Camera Equipment Company, 1600 Broadway, New York 19, N. Y., announces a new collapsible 3-wheel camera dolly designed especially for cameramen who want an easily transportable dolly for field and location filming. The new dolly folds into the compact size of 18" x 12" x 36", and fits into a sturdy carrying case. When fully assembled for use, dolly measures 45" in width by 46" in length.

Dolly is equipped with swivel wheel at rear for easy steering. This may be locked into position for straight forward dollying. Dolly also mounts a "baby" tripod and provides space for both the cameraman and his assistant to ride. Price of the dolly is \$300.



Great equipment makes great cameramen . . . . .

## BALANCED TRIPOD HEAD

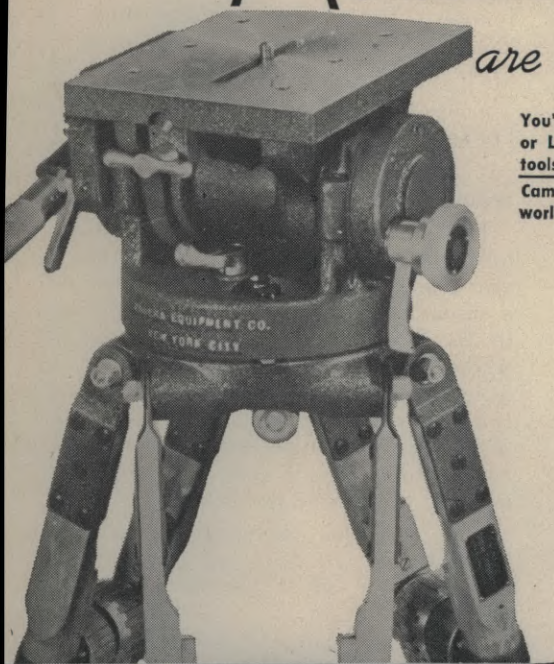
and

## PROFESSIONAL JUNIOR TRIPOD

*are the standbys of the masters*

You'll never hear Fritz Kreisler playing on a scratchy fiddle . . . or Louis Armstrong on a \$7 trumpet. Good craftsmen need good tools.

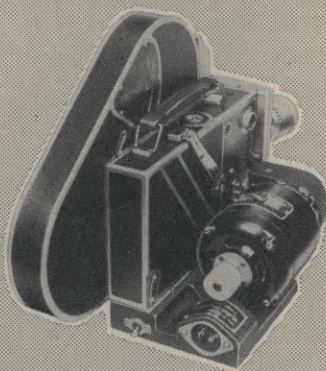
Camera Equipment Company makes, sells, services and rents the world's finest quality TV and Motion Picture Equipment.



New "BALANCED" TV head — MODEL "C"  
—for the world's smoothest pan and tilt action.

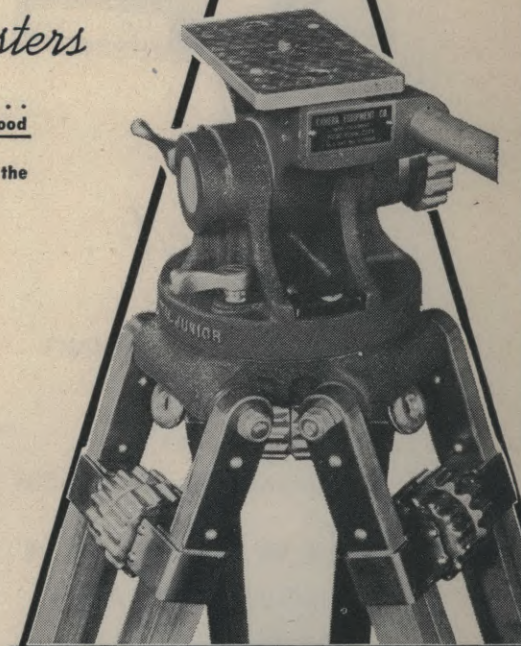
No more groping for center of gravity. The new Model C "Balanced" Tripod Head is equipped with a convenient, accessible positioning handle mounted below the top plate, which allows the operator to reposition the camera to the correct center of gravity. No matter what focal length lens is used on the camera turret, the camera can be balanced on the Model C Head without loosening the camera tie-down screw.

It has all the features which have made the "Balanced" head a gem of engineering ingenuity—quick release pan handle, tilt-tension adjustment to suit your preference. It's a Cameraman's dream!



**SYNCHRONOUS MOTOR DRIVE**—110 Volt AC—Single phase, 60 Cycle. Runs in perfect synchronization with either 16mm or 35mm Sound Recorders. Mounting platform permits removal of magazine while camera remains mounted on motor. Spring steel drive fin coupling prevents damage if film jam occurs.

Knurled knob on armature permits rotating for threading. "On-Off" switch in base. Platform base threaded for 1/4" or 3/8" tripod tie-down screw. Rubber covered power cable with plugs included.



More professional cameramen use The PROFESSIONAL JUNIOR Tripod than any other tripod in the world.

Let's face it. You need a first class tripod to make better pictures. PROFESSIONAL JUNIOR has the rigidity, the range and the ease of operation that better pictures demand. So it—try this tripod beauty—and you'll never be without PROFESSIONAL JUNIOR TRIPOD—Friction Type. Handles a 16mm cameras, with or without motor. Also 35mm DeVriest B & H Eyemo with and without motor, and 400' magazine Tripod base interchangeable with Professional Junior gear drive head. "Baby" tripod base and "Hi-Hat" base available.

FRANK C. ZUCKER  
**CAMERA EQUIPMENT CO.**  
1600 BROADWAY NEW YORK CITY

SALES • SERVICE • RENTALS — CAMERAS \* MOVIOLOS \* DOLLIES

Complete line of 35mm and 16mm equipment available for rental.

MITCHELL: Standard, Hi-Speed, BNC, NC, 16mm

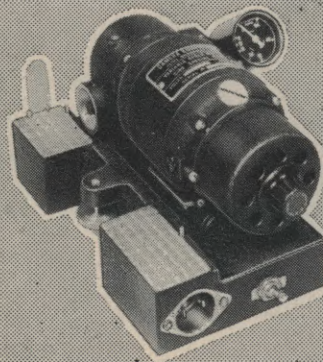
BELL & HOWELL: Standard, Shiftover, Eyemo

ARRIFLEX: 35mm and 16mm

MAURER: 16mm Cameras

MOVIOLO: Editing machines, Synchronizers

We design and manufacture Lens Mounts and camera equipment for 16mm—35mm and TV cameras.



**VARIABLE SPEED MOTOR**—110 V AC/DC with Tachometer for Cine Special Motor drive your Camera Special with confidence! Tachometer is mounted in clear view of operator. Calibrated from 8 to 64 frames per second. Definite RED mark for 24 fps. Electrical governor adjusts speeds. Steady operation at all speeds. No adapters needed. Motor coupling attaches to camera and couples to motor. Spring steel drive arm shears if film jam occurs. Easily replaced.

We calibrate lenses—Precision "T" Stop Calibration of all type lenses, any focal length. Our method is approved by Motion Picture Industry and Standard Committee of SMPTE. For proper exposure density, it is important that you have your lens "T" stop calibrated. Lenses coated for photography.





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**WORLD'S LEADING  
CAMERAMEN**

Used At All  
**Hollywood Movie Studios**

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NOW AVAILABLE**

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**TELEVISION  
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Gentlemen: Enclosed please find \$5.00\*  
for which please send me a copy of  
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BOOK AND REFERENCE GUIDE.

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City..... Zone..... State.....

\*If you live in California, please include 18c  
sales tax — total \$5.18.

# letters

## Likes Diagrams

Kudos to Phil Tannura for his very excellent article "Money-saving Shooting System for TV Films" in the May issue. Especially did I like the set diagram showing camera movements. Give us more articles like this—real gutsy how-to-do-it information.

M.H.

Chicago, Ill.

## Information Source

I am the NBC Television Newsreel cameraman for Thailand and the adjoining countries of Southeast Asia. Unfortunately I haven't been back to the States for the last six years and I find myself woefully ignorant of the latest equipment, techniques and developments in things cinematic. This, despite the fact I've had more than a hundred TV newsreels and feature stories aired over the NBC network.

It seems to me a good way to catch up would be through back issues of American Cinematographer. Are copies available for, say, the past year? If so, how much would it cost to have them sent to me here?

Jorges Orgibet

Bangkok, Thailand.

• Foreign rate for back issues is 40c per copy. At this writing, we have all back issues for the months of 1954 to date. Incidentally, a quick reference to subject matter published during the year is the annual index which appears in our December issues.—ED.

## Lazy-10 Preceded Lazy-8!

You may be interested to know that Paramount Pictures was not the first to design a motion picture camera having the negative travel horizontally instead of vertically, as in its "Lazy Eight" camera described in your December, 1953, and April, 1954, issues.

In the late twenties, a Prof. Alberni, in England, designed a wide-screen camera that worked on exactly the same principle as the Paramount "Lazy Eight," except that Prof. Alberni's camera could more properly be termed the "Lazy Ten," having as it did ten sprocket holes to a single frame instead of eight. The negative

was optically printed and rotated 90 degrees to produce a print on conventional 35mm film. London cinematographer George Hill worked with Prof. Alberni on the project.

H. E. Wright

London, England.

## Wouldn't Miss A Copy

Having been an amateur motion picture enthusiast for the past twenty years, am beginning now to establish a visual-aid service for our churches in the States (known as "Christian Audio-Visual Pictorial Service"). Your articles and news are very helpful and enlightening. I wouldn't miss a copy of AC. So change my address to Shoals, Indiana, as I shall be returning to the U.S. in three months.

Am presently traveling all over South Korea, and have opportunity to do sound or silent photography in 16mm.

Incidentally, I would like to contact various manufacturers interested in making arrangements for sale and distribution of 16mm projectors, tape recorders, etc., to churches and religious groups.

Chaplin Robt. M. Small

14th Field Hosp.,  
c/o P. M., San Francisco.

## Re Cinerama

In his article, "The Cinerama Technique," in the June issue, Joseph Brun did not make clear whether or not he used the same Cinerama camera that was used in filming the original production "This Is Cinerama?" I am wondering if the mechanism has since been improved so as to eliminate the lines of demarcation between the three picture sections projected on the screen.

Robert Fallon

Cincinnati, Ohio.

• Understand the camera used was same type used in making the original film, with three separate films traveling simultaneously past three separate lenses, as described in our November, 1952, issue. Engineering steps have been taken to reduce effect of "seams" between picture segments. —ED.



**SHARPER,  
BRIGHTER,  
CLEARER  
IMAGES**  
with...

• 2-D

• 3-D

•  CINEMASCOPE

• TV

# BALTAR

Brilliant images, thrillingly detailed—they're yours *for sure* with Bausch & Lomb Baltar lenses on your camera. For finest images on film: complete line of Baltar 35mm and 16mm movie lenses—for 2-D, 3-D and CinemaScope. For finest TV images: Television Baltar lenses, for studio and portable cameras. Order from your professional camera manufacturer.



**BAUSCH & LOMB**

SINCE



1853



"Lights"  
"Camera"  
"Action"

and PROCESSED BY  
**MOVIELAB**

FOR THE FINEST FILM PROCESSING **IN  
THE EAST** — FILM MEN WHO KNOW  
SAY **"IT'S MOVIELAB"**

Here—at MOVIELAB . . . efficiency and perfection are the rule. Producers, directors and technicians have at their fingertips the very best in up-to-the-minute equipment necessary to modern FILM PROCESSING techniques.

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it's

*Rainbowlab* Inc.



**MOVIELAB FILM LABORATORIES, INC.**

619 West 54th Street, New York 19, N. Y. JUdson 6-0360

## CATALOGS & BROCHURES

available to readers

### Lighting Equip. Rentals

An attractive leatherette loose-leaf binder containing 53 pages of data and illustrations describing the equipment and scope of service being made available by Jack A. Frost, is available to those in the industry making request on their business letterhead. Some of the equipment is now being made available to west coast producers by a recently appointed Hollywood representative.

### Film Processor Equip.

Prices and complete descriptions of the various components for the construction of custom-built film processing equipment is now available in a comprehensive brochure from Metal Masters, 4584 68th Street, San Diego 15, Calif.

### Film Treatment

Both professional and amateur producers of motion pictures will find the new price list offered by Peerless Film Processing Corp., of value. The 8-page booklet quotes prices on such services as protective and preservative treatments, restorative and rejuvenation treatments, inspection, cleaning, salvaging; breakdown, packaging and shipping services on TV films and commercials, etc.

Copies are available by writing the company at 165 West 46th St., New York 36, N. Y.

### Maurer 16mm Production Equip.

A 24-page illustrated brochure describing the complete range of 16mm professional film production and sound recording equipment manufactured by the company, is available from J. A. Maurer, Inc., 37-01 31st Street, Long Island City 1, N. Y. The brochure is replete with comprehensive illustrations that reveal the many exclusive innovations in film camera and sound recorder design.

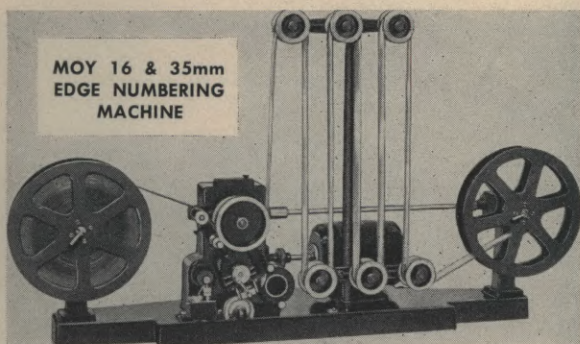
### 1-Track Stereo Sound

How stereophonic sound is obtained from a single optical sound track with the aid of the Fairchild Intergrator is illustrated and described in an interesting new brochure now available from Fairchild Recording and Equipment Co., Motion Picture Sound Division, Whitestone 57, N. Y.



# ONE-STOP SOURCE for FILM PRODUCTION EQUIPT.

"The Department Store of the Motion Picture Industry"



MOY 16 & 35mm  
EDGE NUMBERING  
MACHINE

## IDENTIFY YOUR FILMS INSTANTLY!

Save many man hours now lost classifying films without titles. The Moy edge numbers every foot of film and simplifies the task of checking titles and footage.

Prints black or yellow from automatic metal numbering block on opaque or clear film. 2000' capacity, speed 50' per minute. 16mm model prints between perforations only—35mm prints between perforations or on outside edge as specified.

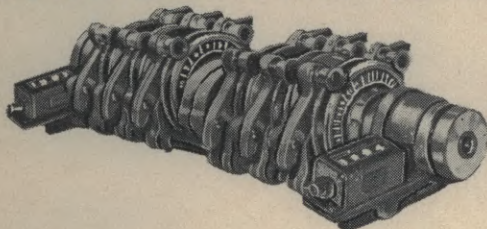
Recent Purchasers are:

Columbia Broadcasting System, N.Y.  
Moody Bible Institute, Los Angeles  
American Optical Co., Buffalo, N.Y.  
Cinerama Productions, New York

WITH NEW, IMPROVED  
INKING SYSTEM

**\$2,250**

## HOLLYWOOD STUDIO SYNCHRONIZERS



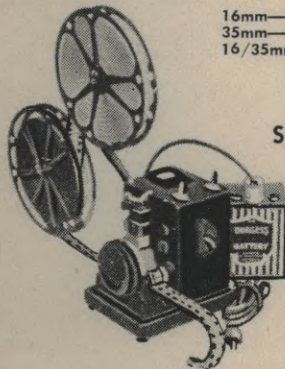
16mm  
35mm  
16/35mm

Match 16 and 35mm  
frame for frame

40 frame rollers (1 linear foot) • Veeder-Root setback counter  
• Undercut sound track and picture rollers and guides • Precision needle bearings for free running • Calibrated adjustable frame dial on stabilized, counterbalanced weighted frame • "Swing-away" guide arms • Fingertip release • Precision machined interchangeable parts allow flexible add-a-unit feature •

16mm—2 gang \$127; 3 gang \$160; 4 gang \$192.  
35mm—2 gang \$145; 3 gang \$177.50; 4 gang \$210.  
16/35mm Comb.—1-35 & 1-16 \$185; 1-35 & 3-16 \$240.  
Other units available upon request.

### HOLLYWOOD JR. 8/16mm Sound/Picture Continuous Printer

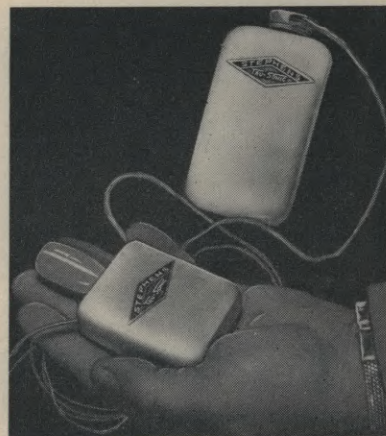


Prints from negative, positive, Kodachrome or Ansco color. Exposure meter controls light density; curved printing head—separate apertures for 16mm picture track and both together or 8mm picture only. Printing lamp operates from 7 1/2 volt dry cell. Capacity 400' . . . Speed 36 f.p.m.

F.O.B. Hollywood .....\$167.50

## STEPHENS TRU-SONIC WIRELESS MICROPHONE

Fulfills a long  
required need!



This miniature F.M. transmitting WIRELESS unit requires no cables, no booms, no hidden mikes to play to. About the size of a pack of cigarettes, weighs less than 4 ozs. With small battery, shown in photo, it can easily be concealed on the person, enabling performer to wander about at will and permit shots never before possible. Ideal for TV stations, motion pictures, stage, lectures, industrial applications, etc.

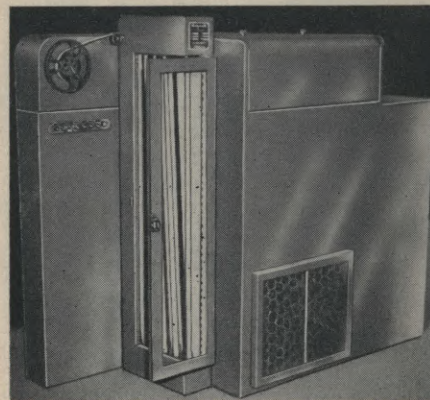
The high fidelity sound pick-up assures utmost tone quality reproduction, surpassing conventional cable-fed microphones in signal to noise ratio as well as frequency response. Includes specially designed, highly sensitive receiver and a power supply with monitor speaker and headphone jack. If desired, the audio output of the receiver can be fed into standard microphone inputs.

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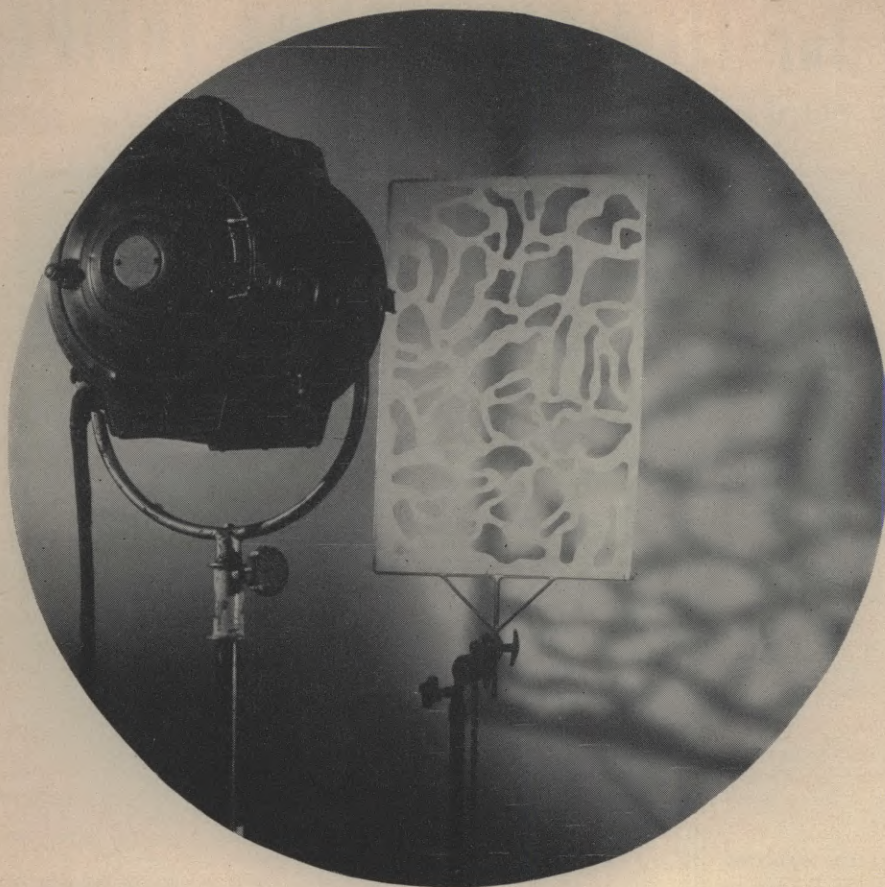
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THE CUKOLORIS, when interposed between a lighting unit and a wall breaks the light up into interesting patterns of light and shadow. Here both lamp and "cookie" are placed much closer to wall than in normal use, in order to more graphically demonstrate the effect obtained.

## Cukoloris—Set Lighting's Most Versatile Tool

"Cookies" placed before set lights enable the cinematographer to give individuality to his lighting; they create interesting patterns of light and shadow that complement dramatic action and enhance effect lighting.

By JOSEPH LASHELLE, A.S.C.

ONE OF THE MOST important accessories used in set lighting carries the strangest of names. It is the cukoloris, or "cookie," as it is termed in the parlance of the gaffer. Its origin is probably as strange as its name, and its originator's identity has long since become

lost among the scores of studio technicians who have come and gone over the years. But the cukoloris remains and is to be found in the grip equipment of every production company at work on Hollywood studio sets today.

Briefly, a cukoloris is a perforated

screen which is placed before a lamp on the set, where it is desired to break up into varied patterns of light and shadow the lighting on a wall or a certain portion of a scene. This is illustrated in photo at left; here the lamp and cukoloris are set up close to a wall in order to demonstrate the immediate effect of the cukoloris when it is interposed between a light source and a wall or object. In normal use, both the lamp and the cukoloris is set up some distance from the wall, and the pattern of the "cookie" on the wall is less defined, as will be described more fully later.

Long before the advent of the cukoloris, cameramen with a talent for painting with light employed the basic fundamental of the cukoloris in lighting certain sets. The late George Barnes was one of these. When I was an operative cameraman, quite a number of years ago, I worked with Barnes on many pictures. One of the first things I noticed about his lighting technique was the way he often placed odd objects between the set lights and the walls in order to break up the light and cast a subtle shadow pattern on them. Sometimes it was a vase of flowers he used, or perhaps a step ladder—anything that would produce the irregular shadows he



CUKOLORIS patterns follow no set rule. Usually they are turned out by the studios themselves, and cut from panels of cardboard, plywood, or celloglass, as is the one shown above.



felt would enhance the lighting pattern. I soon realized that here was a highly effective technique having many possibilities. Later I observed Arthur Miller, ASC, using the same technique—employing various objects before certain set lamps to break up flat lighting on vast wall expanses.

It was about this time that the *cukoloris* as we know it today made its appearance on studio sets. I have come to be one of the more ardent users of the device, indeed to the extent that one joker on the Fox studio lot coined the phrase, "Queer for *cukoloris*!" which is still heard to this day.

The *cukoloris* is one item used by studios that, as far as I know, has never been manufactured commercially outside the studios and marketed, as are other lighting accessories and equipment. Today, just as years ago when the "cookies" first made their appearance, they are invariably turned out in the workshops of the studios.

A *cukoloris* can be made of almost any material, opaque or semi-opaque. In the beginning, most were cut from cardboard or wallboard. Lately, semi-opaque materials such as celloglass have been employed. As may be seen in the photos on opposite page, "cookies" made of such material produce a softer pattern, with the shadow areas less defined.

While a *cukoloris* may be of any size and not necessarily rectangular in shape, the average size of those used in the studios is about 18" by 24". Those made of celloglass are usually mounted on a sturdy wire frame having a vertical pin at the bottom that permits mounting the device on an adjustable floor stand. (See photos). The perforations or cutout areas follow no established pattern; rather this follows the whim and fancy of the maker as he starts at one edge of the material and, with a sharp knife or other tool, cuts out the irregular pieces that permit the light to pass through. For obvious reasons, the cutouts always follow a rolling, uneven pattern; they are never straight nor square, except where a distinct angular pattern is required for an unusual lighting effect.

Just as an artist uses paint to express a mood or create a certain atmosphere on canvas, so a director of photography uses controlled light to express a mood or to establish an atmosphere complimentary to the period in which the play takes place or which is most compatible to the story. Today, the *cukoloris* is regularly employed in this control of light.

I have used "cookies" in almost every production that I have filmed; but increasingly in highly dramatic productions such as "Les Miserables" (1952), "My Cousin Rachel" (1952) and "River of No Return" (1954)—all 20th Century-Fox productions.

On this page are stills from two dramatic scenes from "My Cousin Rachel," which show graphically the use of *cukoloris* in the lighting. The story, as most readers will remember, was laid in England about a hundred years ago, in the candle light era. One of the strong pictorial points made in most of the interiors was the effect of candle light, and for this I used *cukoloris* most effectively.

In such somber settings as those in which the action for "Rachel" took place, it would be unthinkable to light the interiors either brightly or flat. Consequently we concentrated on a pattern of semi-low-key illumination with the ceilings and upper reaches of the walls greatly subdued and all large surfaces splashed with a mixture of light and shadow. Obviously, the *cukoloris* was the ideal tool for creating these lighting patterns.

Because there is a considerable difference between the pattern projected by the "cookie" on the wall in the round photo on the opposite page and that produced by "cookies" in the two scenes from "Rachel," it should be explained here that the projected shadow pattern of the *cukoloris* is greatly altered in density and form as it is moved toward or away from the light source, and again as it is moved toward or away from



SCENE FROM "My Cousin Rachel," 20th Century-Fox production photographed by the author, which demonstrates subtle use of *cukoloris* in background lighting. "Cookies" were used widely throughout the production.

the set walls. Also, the type of light unit used will affect the result; a spot will produce a *cukoloris* pattern more sharply defined than a flood lamp. Also, the farther the *cukoloris* is set from the wall on which its pattern is to be thrown, the softer will be the pattern of shadows.

Note the very subtleness of the shadow pattern on the upper areas of the walls in the top photo on this page; yet how much more dramatic is the effect than would be the case where the walls were simply left in a dark uniform tone.

(Continued on Page 365)



ANOTHER scene from "My Cousin Rachel" in which the *cukoloris* was used most effectively in lighting the background walls and arches. Note how much larger are the shadow patterns than those in the circled photo on the opposite page.



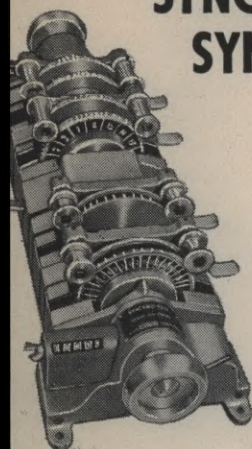
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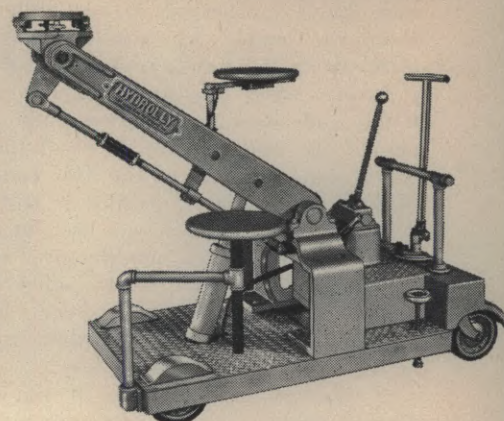
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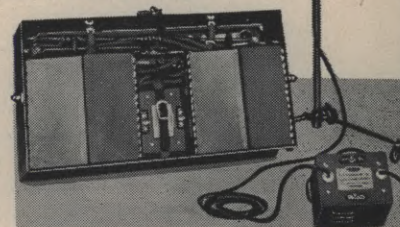
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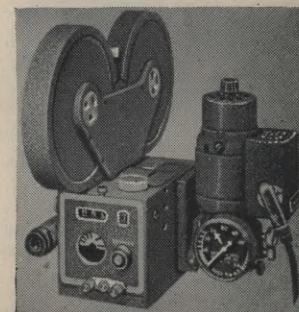
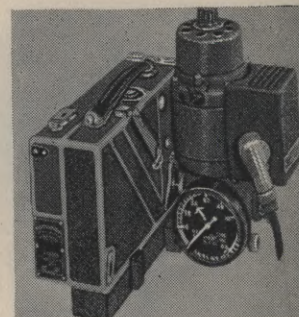
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THE EASTMAN KODAK COMPANY has recently placed on the market a new high speed negative motion picture film under the name Eastman Tri-X Panchromatic Negative Film, Type 5233 (35mm) and Type 7233 (16mm). This is a new material incorporating the most advanced techniques in film manufacture. In the past, higher emulsion speed has always been a desirable goal for the film manufacturer, but high speed has inevitably been accompanied by an increase in the granularity of the developed negative image. A print made therefrom consequently showed greater graininess in the projected screen image. While notable advances have been made over the years in improving the so-called "speed graininess" ratio of various Eastman motion picture films, this new product represents a most remarkable achievement in this respect. For example, while it is fully twice the speed of Eastman Super-XX Negative Film, Type 5232, its granularity is actually less, even approaching that of Eastman Plus-X Negative Film, Type 5231.

As is true with other negative films, however, granularity increases with density of the negative and it is therefore important to avoid overexposure. This precaution is even more important with this film because of its extremely high speed and the greater danger of overexposure.

As indicated by the exposure index and the illumination values given in Table I, the speed of the film is exceptionally high for use under either daylight or tungsten illumination conditions. This high speed is mainly the result of higher inherent emulsion sensitivity, but another characteristic is worthy of note and one which has led many people to consider this film as actually faster than the exposure index values alone would indicate. Because of the fact that the negative contrast or gradient is maintained at extremely low densities, it is possible to obtain satisfactory tonal relationships in the print even when the negative is very thin—actually thinner than what one is accustomed to regard as satisfactory for obtaining acceptable quality prints.

This high effective speed is an important consideration when pictures must be made under extremely poor lighting conditions, such as are frequently en-

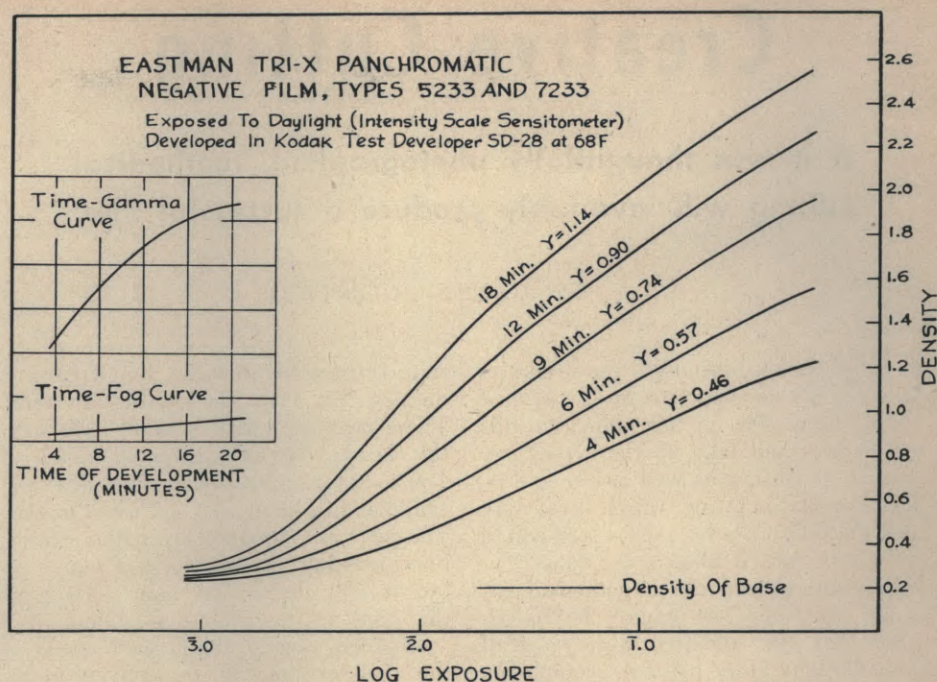


FIG. 1—The development time for Eastman Tri-X Panchromatic Negative film (Types 5233 and 7233) is about the same as that for Plus-X film, Type 5231, resulting in a gamma of 0.65 to 0.70. The film is not intended for processing at high temperatures.

## Tri-X—New Eastman High-speed Negative Motion Picture Film

A remarkable fast negative, ideal for dark days or night exteriors, it can be used for shooting at night with existing light.

By EMERY HUSE, A. S. C.

countered in newsreel photography. The film should find extensive use in photographing scenes on dark days or night exteriors. It should also find wide application in photographing factory interiors, hotel lobbies and the like, under existing lighting conditions, where it might be difficult or impossible to set up auxiliary lighting units.

Like other Eastman picture negative films, Tri-X Film is intended for processing by the user. It is developed in a normal motion picture negative developer such as Kodak D-76 or some

modification thereof. The development time is about the same as that for Plus-X Film, Type 5231, resulting in a gamma of 0.65 to 0.70. Fixing, washing, and drying operations are also similar to those used for other picture negative films. The film is not intended for processing at high temperatures.

The same precautions regarding keeping of raw stock and exposed film should be observed as have been recommended for other black and white picture films.

(Continued on Page 364)

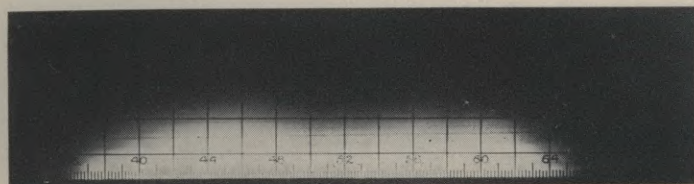


FIG. 2—Type 5233, sunlight exposure.

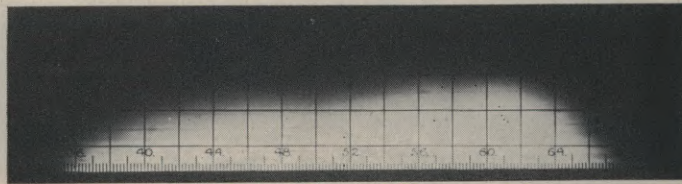


FIG. 3—Type 5233, Tungsten exposure.



# Creative Cutting

**If it was thoughtfully photographed, methodical cutting will invariably produce a successful film.**

By CHARLES LORING

**L**AST MONTH we discussed the preliminary steps necessary to the process of editing a motion picture film. In this article, we shall take up the actual mechanics of editing as well as the subtleties of creative cutting, which invariably spell the difference between a well-edited and poorly-edited film.

Continuing with the hypothetical example described last month, let us assume that the unedited film received from the laboratory has been completely broken down in the primary step of editing. The various scenes, which were separated from the various rolls of film, are now arranged in consecutive order on a peg-board, scene-strip rack, or pigeon-hole tray. It has been decided, after reference to the script and the descriptive 3 x 5 file cards, that this consecutive order is actually the order in which the various scenes are to be cut together—or as you want them to appear in your tentative plan for the final cut.

The next step is to *rough cut* the footage, one sequence at a time. Starting with the first or "A" sequence, cut the

slate frames off of Scene 1 and hang it on peg No. 1 on the editing-bin rack. These pegs are actually small nails with the heads cut off, mounted along a horizontal rack suspended over a rectangular bin lined with soft white muslin. The pegs are designed by painted numbers running consecutively from 1 to 50, or 100, depending upon the size of the bin—as described last month.

Proceed now to mount each scene of the sequence on its respectively numbered peg. When you reach the end of Sequence "A," splice all of the scenes together in order. Now you can either rough-cut the rest of the sequences, or screen Sequence "A" preliminary to final cutting of that sequence. Many editors prefer to join all of the rough-cut sequences together before doing any final cutting, so that they can get an idea of the flow of the entire production.

The rough-cut sequence will include *over-lap* action to bridge continuity from one scene to another; this will be eliminated in the final cutting. Also, the action in these scenes will probably run

over-long because it is unrelieved by the variety of scenes which will later be *inter-cut* to speed up the pace.

In screening the rough-cut sequence, there are a few basic editing axioms to be considered. Firstly, your main objective in cutting is to create a smoothly flowing story that will hold the audience's attention by virtue of having its dramatic emphasis in the right places. Secondly, two scenes taken separately will have two separate meanings—but when they are joined together consecutively an entirely new meaning rises out of the relationship. For example, you may have a shot of an airplane flying and another shot of a man looking up at the sky. If the two scenes are joined together, your audience will quite naturally assume that the man is looking up at the airplane.

Thirdly, in final cutting you will be concerned with three important elements: *continuity*, *tempo*, and *dramatic punch*. It is these factors which you will want to keep firmly in mind when screening the rough-cut of your sequences. First, determine how you must cut your footage so that each scene will flow smoothly into the next. If there is a jump in continuity, decide which type of optical transition will best bridge the gap.

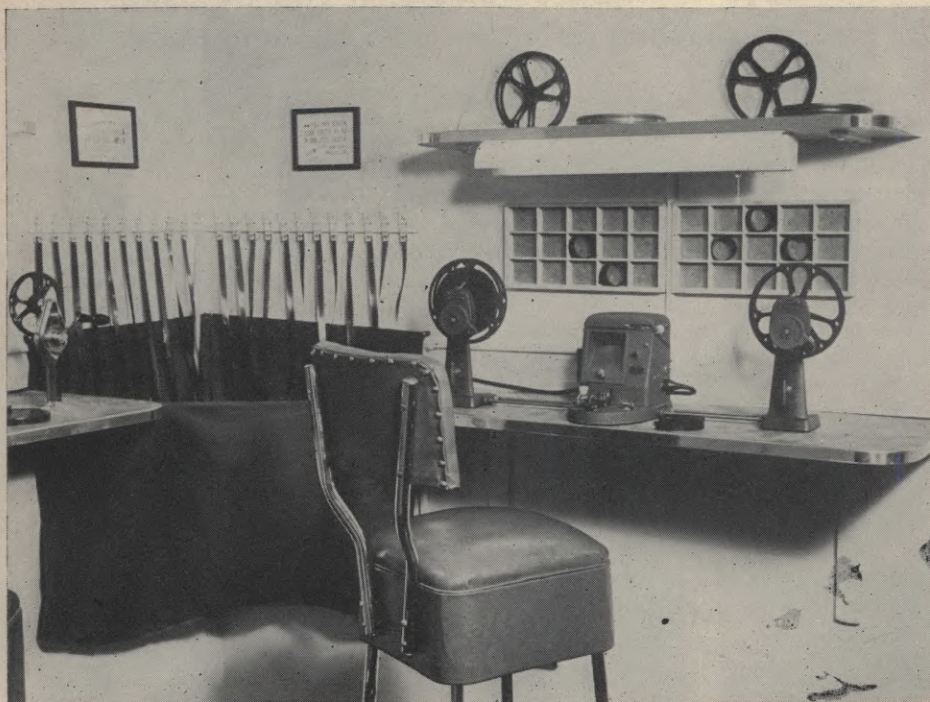
Next, notice the pace of the action in individual scenes and decide where you will want the general tempo speeded up or slowed down in the final cutting.

Then notice which scenes contain your climatic action, the situations which must be built up to give your scene story *dramatic punch*.

In simplest terms, continuity in cutting means a smooth flow of story action from scene to scene and sequence to sequence. Actually, as we have pointed out before, continuity originates in the script and is enhanced by proper direction of the action. With this firm basis, it is a simple matter for the cutter to put together a smoothly-flowing screen story from the footage at hand. But, it is a mistake to believe that good continuity can be *manufactured* in the cutting room from poorly matched, disjointed scenes.

Good continuity implies that cutting should be so smooth that the audience will not be immediately conscious of changes of angle or image size as the camera changes point-of-view. Thus, in cutting continuous action, the *overlap* (or repetition of action at the beginning of a new scene) must be cut at a point where the action will continue to flow uninterruptedly. Sometimes it is a simple matter to locate this point; at other times you will have to experiment.

(Continued on Page 352)



**YOU'VE GOT TO** have the right tools to do any job well, and this applies equally to film editing. Here is a simple, but well-arranged editing table for 16mm film, with scene-strip rack in the corner which utilizes numbered plastic clothespins to hold the strips.



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TWO CAMERAS—one for CinemaScope and one for wide-screen—were used in photographing in color most of the scenes for MGM's "Seven Brides for Seven Brothers." Here director of photography George Folsey's dual camera crews photograph a scene on an

exterior set erected indoors on one of MGM's sound stages. The studio's recently developed "skylights" supplied the diffused lighting necessary to simulate daylight.—All MGM photographs by Frank Shugrue.

## Simultaneous Production Shooting In CinemaScope And Wide-screen

There's always something new being tried in the making of MGM productions, and this was no less true during the shooting of "Seven Brides for Seven Brothers" when two cameras were used for every shot and gaffers communicated via short wave radio.

By GEORGE FOLSEY, A.S.C.





BACK IN 1922 I had the pleasure of being associated with director Chester Franklin at the old Long Island studios, working mostly with Bebe Daniels on such memorabilia as "Nancy From Nowhere" and "Rum Runners."

I mentioned this biographical fact, not to establish how long I have labored in the celluloid vineyards, but to bring up an interesting discovery made at that time, viz.: that fog—the variety that creeps up New York's East River—is one of the greatest aids in light dispersal, producing soft values in illumination which, I have also discovered, are ideal for CinemaScope photography.

So, when I was assigned recently to photograph M-G-M's CinemaScope musical, "Seven Brides for Seven Brothers," produced by Jack Cummings, my earlier experience with fog stood me in good stead. In starting to shoot this production, certain problems in set lighting soon made themselves apparent—namely, that created by the much larger CinemaScope aspect ratio and the unusually large cast of principals, fourteen in all. At times more than twenty featured players were on stage at the same time—a matter that posed a problem of lighting them all adequately and uniformly.

By contrast, for the intimate love scenes in which were paired Howard Keel and Jane Powell, Jeff Richards and Julie Newmeyer and all the rest of the newly-wedded couples—all prominent in the picture—the CinemaScope area in the camera finder loomed as empty as the Rose Bowl on January 2nd when setting up for closeups or medium shots of the individual couples. Here the compositional and lighting problems were to make unobtrusive, without being obvious about it, those parts of the wide CinemaScope picture area left open when action was concentrated in the middle of the screen.

The solution was in strategic placement of kickers and sidelights, all rigged to produce reflected or diffused light—similar to the soft quality of fog-diffused light I had discovered years earlier. Actually, this lighting technique, now widely used by many cinematographers, is the single innovation of no one man. If any credit is due anyone for this pictorial innovation, it should go to Leonardi Da Vinci (see his Mona Lisa) and others of the Old Masters; for although it may not be apparent at first glance, such artists virtually swept their entire canvas with diffused light.

I once used this technique of diffused light during the entire production of "If Winter Comes," and for many sequences in "Green Dolphin Street," lighting through silks.

Problems on "Seven Brides for Seven Brothers" began with the word go. The picture was being shot in two aspect ratios: CinemaScope and Wide-screen, which required shooting about 90 percent of the scenes simultaneously with two cameras—one for each format.

The opening sequence encompassed almost continuous action on a set three blocks in extent erected on M-G-M's back lot. Howard Keel, singing one of the hit tunes of the picture, strides up and down the sidewalk in search of a girl—"any girl!" This vast set was successfully lighted for wide-screen photography by mounting arc lamps high on parallels erected

(Continued on Page 369)

EXAMPLES of some of the artful lighting which marks the photography of "Seven Brides for Seven Brothers" is evidenced in the three scenes pictured at right. Contrasting the interesting lighting scheme of the interior (top photo) is the illumination treatment given the next two scenes—both indoor "exteriors" employing painted backdrops very effectively, and a lighting technique that lent the utmost realism to the settings.

LEFT—For big fight scene (for which there could be no retakes) four cameras were used: two CinemaScope and two wide-screen. Cinematographer George Folsey, ASC, is second from right. Others are Andy McIntyre, Bob Tobey, George Hollister, Wm. Spencer, Robt. Brunner, director Stanley Donen, and actor Howard Keel.



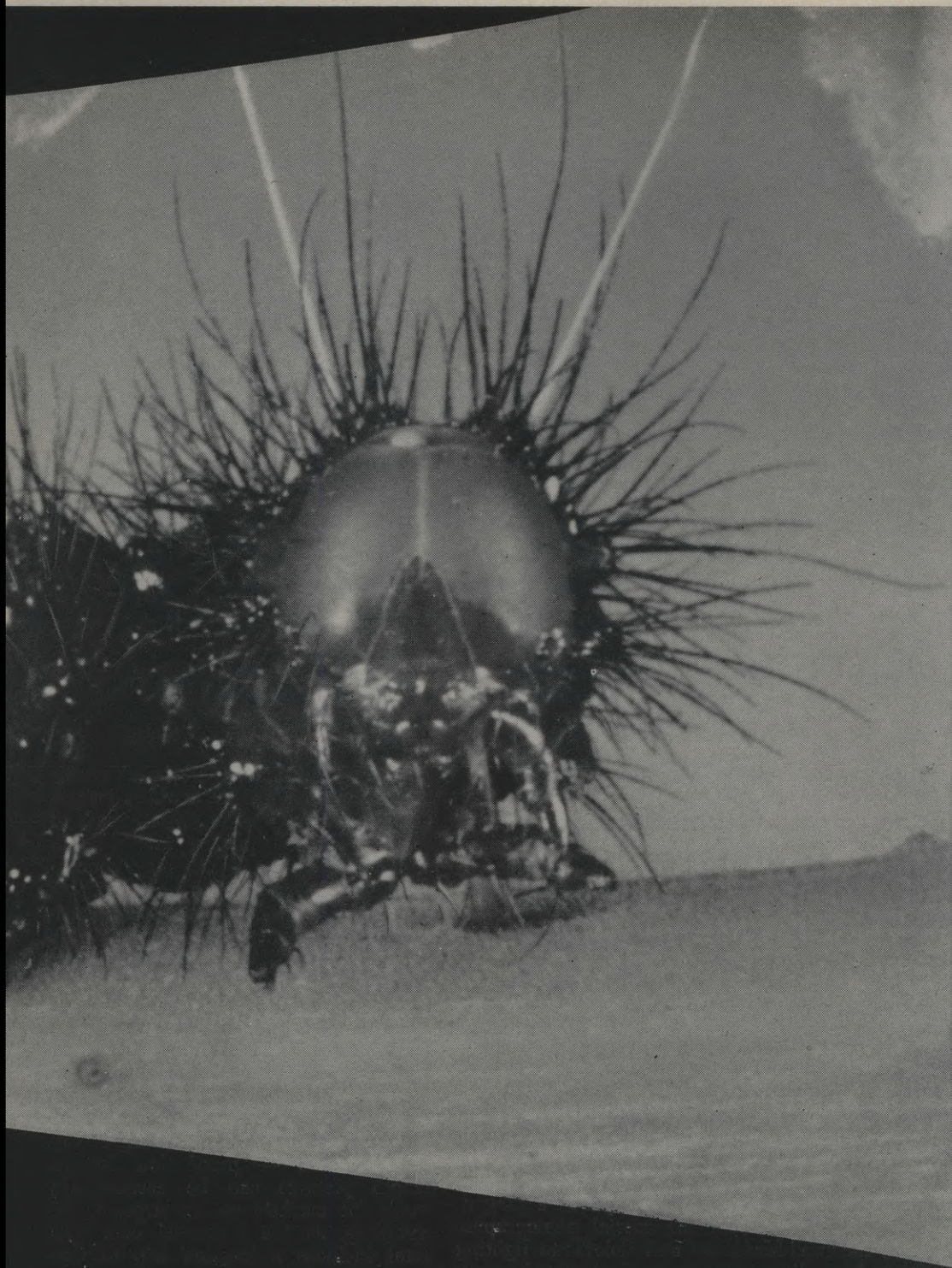




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**GOSPEL FILMS'** Ken Anderson runs a tape prior to setting focus for a closeup for "The Great Light." Sets were erected in rented garage which served as company's first studio.



**TALKING** over a shot for sequence filmed in Nuremberg, Germany, where company went on location, are Ken Anderson, writer; Ralph Papin, cameraman; and actor Hans Hillerbrand. Here a Cine Special was used to film scenes.

## Case History of a Non-theatrical Film Production

**How Gospel Films, Muskegon, Michigan's bustling two-man film producing company, turned out a 60-minute religious feature on a \$15,000 budget.**

By CHARLES L. ANDERSON

GOSPEL FILMS is typical of so many of the energetic young film production enterprises which are springing up regularly throughout the country to supply a need for motion picture productions in specific non-theatrical fields. Ralph Papin and Ken Anderson, who head the company, and with considerable practical film making experience behind them, began as have so many of our successful young non-theatrical film producers — with very modest resources and equipment.

As production profits accumulated, they plowed them back into the business, purchasing new and better equipment. Recently Gospel Films acquired a Magnasync sound recorder, a Micro daylight film developer for special photographic work, a Hollywood "Jr." printer, and Bardwell-McAlister and ColorTran lighting equipment. More recently the company has relinquished its original rented-garage "studio" and purchased more commodious quarters for its studio in Muskegon, Michigan.—*Editor.*

A SERIES OF 16mm religious films that combine entertainment and spiritual quality in their dramatic stories have earned Gospel Films of Muskegon, Michigan, a growing prestige in the religious motion picture field. What surprises those acquainted with the company only through its pictures is that, as far as production is concerned, it's a "two-man outfit." Ralph Papin serves as cameraman, editor, and direct-

or, while Ken Anderson is writer and producer.

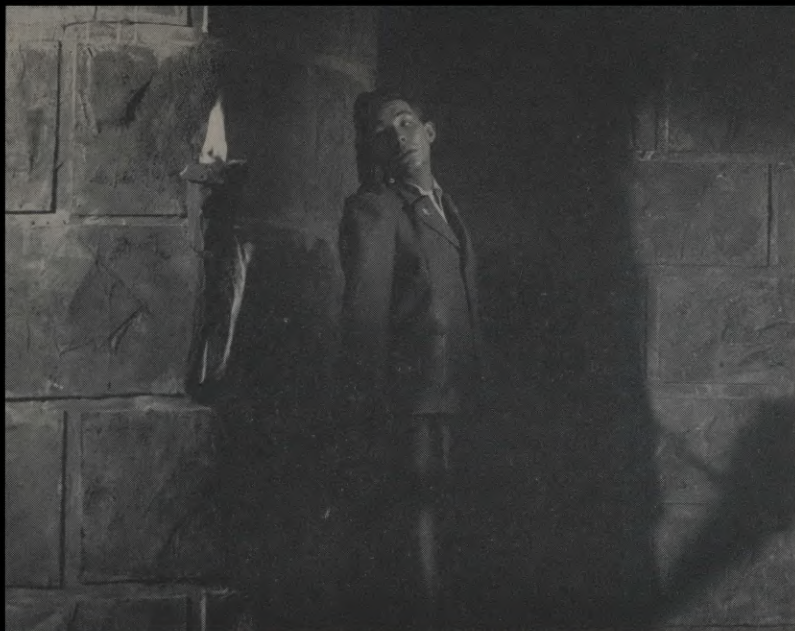
Only the cast and occasional filming assistants are added to this crew for actual production. But following the standard business practice of most successful companies, Gospel Films has a small board of directors that meets to supervise general policies and make recommendations on stories. This board consists of local business men with a back-

ground of participation in church activities. They offer guidance which insures that the films will meet current needs of religious motion picture users. Papin and Anderson, therefore, may concentrate more thoroughly on the complex details of production. Business responsibilities are assumed by Jack Sonneveldt, president, and Charles Peterman, business manager.

The current Gospel Films release is "The Great Light," a 60-minute 16mm feature filmed in Germany and the United States. It tells of a young German war veteran who finds religion an answer to the unsettled times about him. Total budget for "The Great Light" was only \$15,000 — proof that feature-length pictures can be economically made for markets not as large, or demanding, as the theatrical one. This total includes a location trip to Germany for Papin, Anderson, and for Hans Hillerbrand, a German exchange student who plays the lead role.

Exteriors for "The Great Light" were filmed in Germany, while interiors were shot in a rented building in Muskegon. The little company was six weeks on the European location trip. Here scenes were filmed at an old castle, in the courtyard of a medieval school, and on the streets of Nuremberg. Interested people walking by during the shooting of street scenes gave the crew quite a bit of trouble. No sooner would the Cine Special camera be set up, then a crowd would gather to see what was being





REALISTIC castle interior constructed of wallboard panels finished with stucco paint, and expertly painted to create illusion of ancient German castle, exteriors for which were shot on locale in Germany.

done. Just the camera itself attracted attention before Hillerbrand entered the scene. It was noticed that the Germans dress very conservatively, and as a method of getting their attention away from the camera and action for one shot, Papin wore a bright yellow sweater and a red cap. He locked the camera starting button in "on" position and ran from the doorway where the camera was stationed and pointed excitedly down the street to distract the onlookers. Hillerbrand, meantime, played the scene without interference by the distracting visitors.

The most important setting for action in the picture called for an old castle. The crew did quite a bit of scouting around until they found the most suitable one. They chose a castle on the out-

skirts of Nuremberg, one that wasn't so well-kept that it looked like a modern country home, as some did, or so much in ruin that it was hard to recognize. Papin and Anderson were disappointed to find that real castles didn't have the immense courtyards which Hollywood tradition attributes them, so the courtyard of a medieval school was substituted for exteriors for this sequence. Castle interiors were constructed later in Muskegon and filmed in what was then Gospel Films' studio—a rented garage. The company has since purchased an old dance hall, 40 by 50 feet in size, and converted it to a studio.

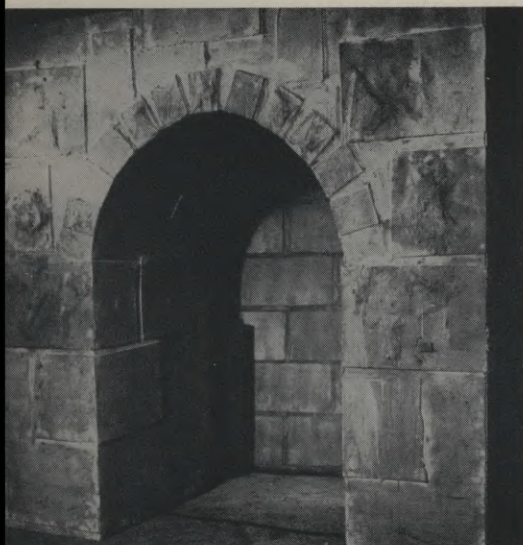
Because "The Great Light" deals unsympathetically with political extremists of all sorts, the crew visiting Germany made every effort to keep its work

unpublicized. Cameraman Ralph Papin took the leading villain role himself rather than possibly reveal the nature of the filming project by hiring a professional actor. In addition, the cost of another ship fare was thus saved, too, because the big chase with Hillerbrand and the villain was continued in Michigan, staged against the ersatz castle interiors. In Germany, most of the footage was filmed unobtrusively in the guise of amateur travel pictures to avoid declaring the exact nature of the work. By the time the company returned to the United States, Hans Hillerbrand's student visa had expired, and Gospel Films had to enlist the aid of the State Department to enable him to remain in the U.S. long enough to complete balance of the interior scenes.

Six weeks in Europe, two months constructing sets, and six weeks filming interiors were included in the production schedule, with some remaining time spent in post-recording, editing, and lab work. The entire production was shot "wild," and dialogue and effects were dubbed in later. Sync-sound would have complicated the German location work too much; also, the studio set-up for interiors was located near a noisy engine testing plant, making sync recording impractical. Therefore, dialogue was post-recorded on tape and the good takes were later transferred to film. Gospel Films has since purchased a Magnasync magnetic film recorder which will afford lip-sync recording on all picture productions.

The major interior sequence of "The Great Light" is a chase in which Hans Hillerbrand is pursued by the "heavy," portrayed by Ralph Papin. Clever rearrangement of a few castle set pieces simulated many castle rooms and pas-

(Continued on Page 363)



THREE PHOTOS above show ingenious set construction detail for German castle interiors. Basic facade above was given new look by addition . . .



. . . of door, and change of camera angle and lighting for still another sequence. "Stone" is wallboard panels cemented to flats and painted.



MASONRY detail also constructed in "garage" studio by Gospel Film's ingenious craftsmen, again using wallboard paste, paint and plaster.





FIG. 1—CinemaScope lens swings readily out of way to permit setting stop and focus of camera lens. Pictured is the first Arriflex Cinema-Scope camera adapted for Astra Pictures, Italy, used by cameraman Mario Gaveri in making helicopter shots for "Lost Continent" in Indonesia.

THE TREMENDOUS SUCCESS of CinemaScope, which is evidenced by the steadily growing number of feature productions being made in this format by major studios, and the increasing number of theatres fitted or being fitted to show CinemaScope films (There will be 10,411 in the U.S. on August 1st, says the *Hollywood Reporter* in its June 17, 1954, issue.) has given impetus to still another phase of the motion picture industry—the production of short subjects in CinemaScope.

Short subject production very often is carried on by small producing units employing light, mobile equipment—especially so the cameras. One of the most

popular cameras for this work is the 35 mm. Arriflex, a popularity attained because of its many exclusive features.

Shortly after the introduction of CinemaScope by Twentieth Century-Fox studios, the Arnold & Richter Company in Germany, manufacturer of the Arriflex camera, was urged to adapt an anamorphic lens to this camera for CinemaScope work. Now CinemaScope and Arriflex have finally been "wedded" and two very successful methods of anamorphic lens adaptation have been worked out, both of which have proved highly successful in actual production work. In one adaptation, a new single-lens turret plate is substituted for the conventional 3-lens turret, permitting the CinemaScope lens to be mounted as an integral part of the camera. The other adaptation is suitable for use with standard Arriflex cameras having a 3-lens turret, enabling present owners of Arriflex 35mm. cameras to readily adapt them for CinemaScope filming.

Adapting the Arriflex for CinemaScope was not without its problems, and in order that the reader may under-

stand something of the problems involved, they will be explained briefly here.

The shutter of the Arriflex, as many readers know, is a glass disk which rotates at a 45° angle between the optical axis of the taking lens and the center of the film plane. Its front surface is mirrored and intermittently reflects the lens image through a separate optical system to a ground-glass lens in the camera finder, enabling the operator to view the scene exactly as it is recorded by the camera.

The film gate of this camera normally has the standard sound aperture. The lens sockets in the 3-lens turret are so designed that the optical axis of the taking lens is exactly in the center of the picture negative area. For CinemaScope photography, however, it becomes necessary to enlarge the film gate from standard "sound" aperture to the new standard CinemaScope aperture, which is 23.79mm by 18.67mm in size. This is accomplished by milling out the standard sound aperture as shown in Fig. 4

(Continued on Page 354)

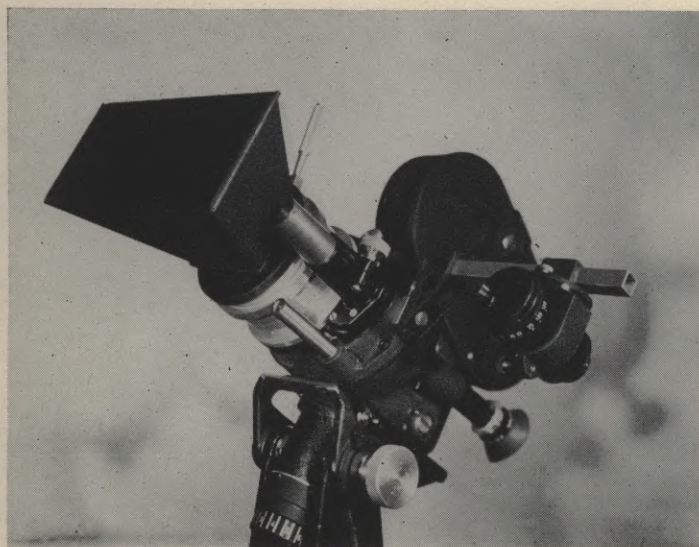


FIG. 2—In this adaptation, regular 3-lens turret is replaced by single-lens turret plate which also provides swing-mount for the CinemaScope lens. Note special finder on bracket.

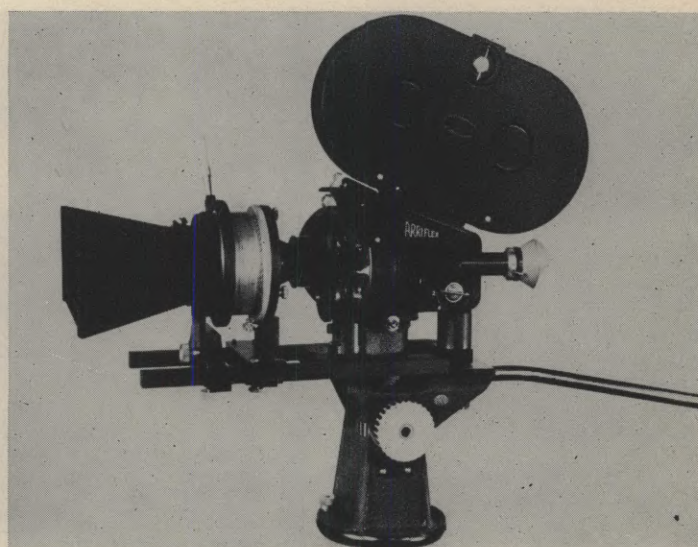
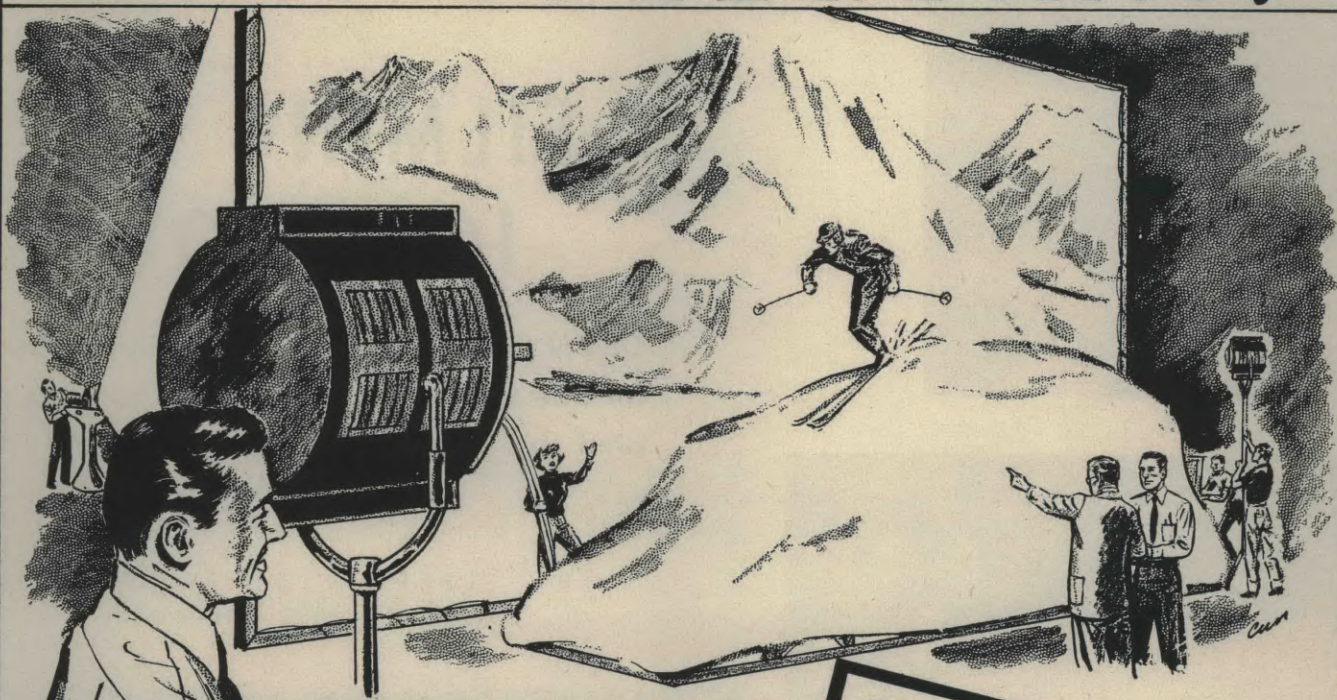


FIG. 3—Adaptation of CinemaScope lens to present 3-lens Arriflex 35mm cameras. C-lens is mounted on special cradle which slides before camera lens on rails.



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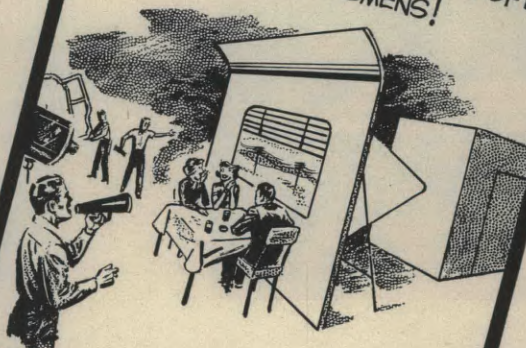
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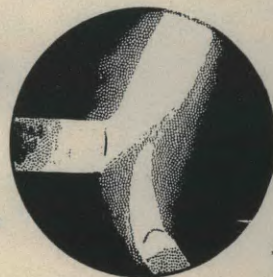
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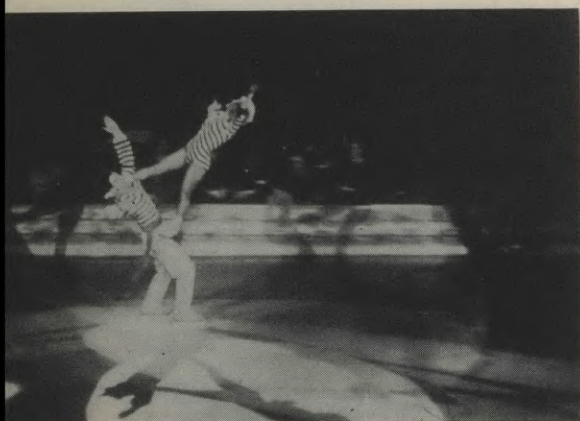
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## FILMING THE ICE SHOW

**One of the most colorful and exciting subjects for cine cameras, it also presents hazards created by the ever-changing lighting and action of players.**

By **ELBERT J. WHITTINGTON**  
*Washington Society of Cinematographers*

**N**O OTHER SUBJECT, perhaps, poses such a challenge for the movie maker as ice shows. When the "Ice Capades," the "Ice Follies" or any of the other big time skating spectacles come to town, there is created among most cine cameraists the desire to get the show — the whole show — on color film. The challenge presented by the difficulty in obtaining desired pictorial results is hard to resist, and seems only to spur the cinebug onward to the task. The first problem faced by the amateur movie maker is that of adequate light; thus only those cine cameras with fast lenses will be capable of getting good pictures in the subdued light in which most ice show routines are performed.

One of the difficulties often encountered by cine filmers is the ban against use of cameras by some ice show managements. Fortunately, such bans are imposed with less frequency and today we find most of the shows eager to encourage amateur photographers and even cooperating with them to insure the best picture results.

Good ice show movies may be filmed with either an 8mm or 16mm camera, providing it has a good, fast lens. Ideal lenses for this work are the standard one-inch f/1.4 and two-inch f/1.6 for 16mm cameras, and 1/2-inch and one-inch lenses with similar apertures for 8mm cameras. This is not to say that f/1.9 or f/2.5 lenses will not get results; a great deal depends upon the volume of lighting used for the show.

More than one lens, of course, is a must if you are to get variety into your ice show record. In addition to a lens for general scenes, a telephoto lens is necessary in order to get the occasional closeups that should be intercut with your film to give it variety and increased interest. The longer focal length "speed" lenses, such as used on many 35mm still cameras, may also be used on cine cameras for closeups. One such lens, which gives excellent results, is the 85mm f/1.5 Leitz. This lens is rather bulky when used on a cine camera,

*(Continued on Page 355)*

**FRAME ENLARGEMENTS** from author's 16mm Kodachrome film of an ice show, which illustrates the quality of shots that can be obtained where an adequate lens is used plus good judgment of exposure. The latter is a vital factor because an exposure meter is almost useless in evaluating light conditions for ice show numbers.





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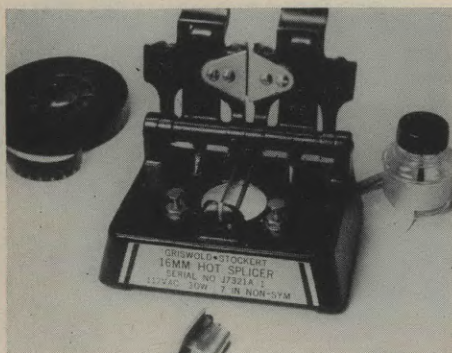
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By HANK STOCKERT



**FIG. 1—Converted Griswold Splicer**

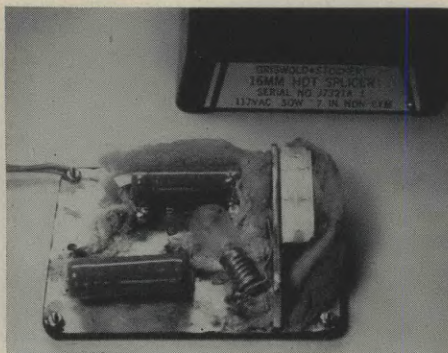


FIG. 2—Base plate removed, showing heater.

A schematic diagram of a vacuum system. It features two vacuum pumps, one at the top and one at the bottom, connected by a network of pipes. A central light bulb is connected to the bottom pump. On the right side, a vertical section shows a detailed view of a vacuum gauge or valve assembly with various ports and a pressure reading scale.

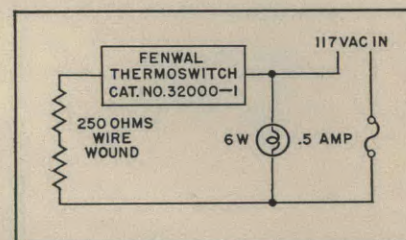


FIG. 3—Plan and wire diagram of base plate.

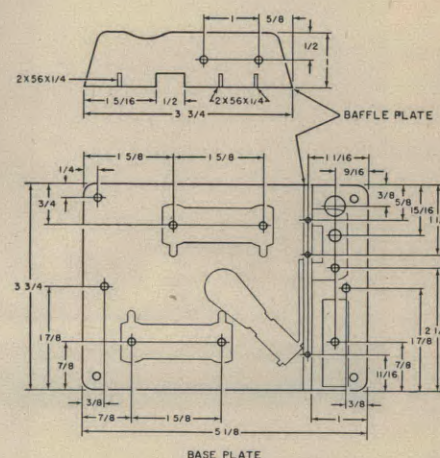


FIG. 4—Base plate dimensions

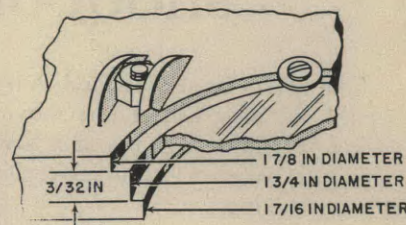


FIG. 5—Detail of glass port in base.

(Continued on Page 350)



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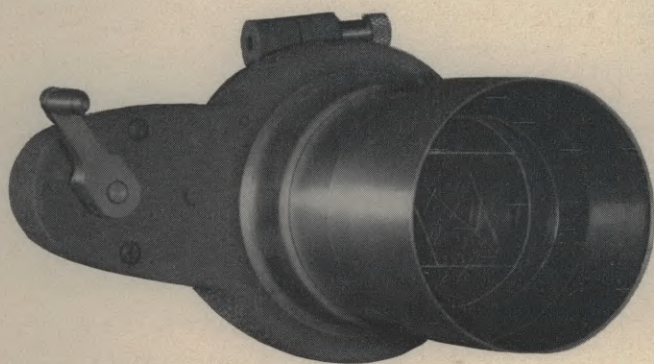


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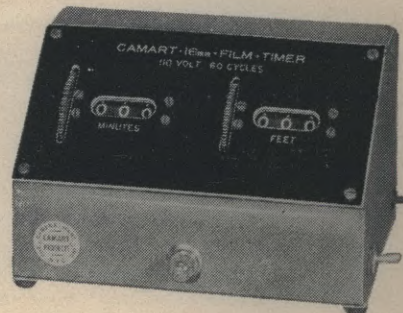
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To tell the story of quality in photographic lenses, the Eastman Kodak Company has produced a 16mm Kodachrome motion picture titled "Quality In Photographic lenses." The film won a Golden Reel Award in the first annual selection of 16mm films by the Film Council of America.

The film follows a lens through production, shows all the intricate steps a lens goes through until it is mounted in a camera.

The subject is ideal for showing on Cine Club programs. Club secretaries may get more information about availability of prints from Informational Films Division, Eastman Kodak Co., Rochester 4, N. Y.

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A new list of Free Loan 16mm sound films, which make ideal program material for Cine Club meetings has been compiled by Princeton Film Center, Inc., Princeton, N. J. Program chairmen are invited to write for copies of list and inquire about use of films for movie club programs.

★

West Coast cine film users are now able to get stepped up service in the processing of Cine Kodak 8mm and 16mm films. Eastman's new processing lab at Palo Alto, California, was opened last month, just in time to care for the summer rush of color film shooting. Lab is Eastman's eighth in the U. S. and was built to take care of increasing business from northern California, Oregon, Washington, Idaho, and Nevada.

## HOT SPLICER CONVERSION

(Continued from Page 348)

smooth side up. Allow a slight amount of space for any expansion that may be created by the heating unit. Next drill and tap the three holes for the 2 x 56 retaining screws, but before placing the screws, bend three 1/4" washers into a very shallow "V" shape. These washers will place a slight tension on the disc and permit expansion without shattering.

Cut the base plate, which will serve both as bottom cover plate and as a support for the various components of the heating unit, from 24 ST aluminum alloy 1/8" in thickness. Since the splicer base is an unfinished casting and therefore may vary from normal dimensions, it will pay first to cut a template from a piece of stiff cardboard to the dimensions shown in figure 4, and try it for size. The base plate should fit flush with the bottom of the casting, with the corner "feet" extending.

After cutting the base plate to size, level the edges with a file to mate with the slope of the inner walls of the splicer base. Finish the base plate by drilling all holes indicated in figure 4.

Next, cut and fit the baffle plate shown in figure 4. The concave cutout area is to match one of the small outer retaining walls in the bottom of the casting. Clamping baffle and base plate together, drill the three holes indicated. Cut the holes in the baffle, and countersink the holes in the new base plate. Assemble the two parts with three 2 x 56 x 1/8" flathead screws. When proper fit with the casting is obtained, mount thermostat (a Fenwal 32,000 miniature rectangular thermoswitch) upon the small angle brackets, using solder. Make sure that the flat, heat-sensitive surface of the thermostat is flush with the top of the baffle, so that it will rest in contact with the inner surface of the casting when assembled. For insulation, place a short length of electrician's rubber tape between the baffle plate and the miniature angle brackets.

The heating elements are two conventional wire-wound electronic resistors. They come complete with mounting brackets, and these should be bent to shape as shown in the sketch of the completed base plate. With 6 x 32 flathead screws, mount the resistors, pilotlight socket, fuse block and rubber legs as indicated. Soldering is simplified if all lugs on the resistors and other parts are in the positions shown. Place a rubber grommet in the 3/8" hole, and insert the lamp cord, securing it with a small cable clamp and a 6 x 32 nut and bolt, as illustrated.

The unit is now ready for wiring. For

this use heat-resistant wire. If no suitable wire is available, use a length of insulated wire commonly used in electric iron cords. But first remove the outer braid. Cut and bend all wires as shown in the wiring diagram, and scrape all ends to assure a good solder joint. Bend each end tightly around the indicated lug. When all wiring is in place and checked, solder the connections. Then add the fuse and pilot bulb. To assist the baffle in shielding the thermostat from direct heat, add two pieces of fiber glass insulation material, cut 1" x 1" x 4" in size. Insert one piece between the heating elements and baffle plate, and use the other to fill the thermostat compartment as shown in Fig. 2.

Two 6 x 32 x 1 1/8" flathead screws will hold the completed heating unit in place. Use a pair of nuts upon each screw to set the depth of the base plate. Now carefully insert the assembled unit into the splicer base, making sure no solder lugs or exposed wire touches any part of the base or base plate. Add a nut to each of the two retaining screws and the job is finished.

To enable more heat to reach the lugs which support the splice bar, it may be necessary to add the two small blocks of aluminum shown on top of the resistors in the drawing. For this drill a hole 1/8" of an inch in diameter through the center of an inch-long piece of 3/4" square aluminum, and saw into two parts. You may have to file the top surface to allow the base plate unit to fit into the splicer.

To adjust the thermostat to proper temperature, set it about one third of a turn clockwise from its stop. From this initial setting make slight adjustments at about half-hour intervals until the correct temperature is established. This

(Continued on Page 352)

### We Invite Your Contributions

Readers who would like to write articles or papers on subjects relating to cinematography or of interest to motion picture cameramen, or on subjects relating to TV Film Production, Industrial Film Making, Film Laboratory Technique, Special Effects, Amateur Movie Making, etc., are invited to submit such articles to the Editor for consideration.

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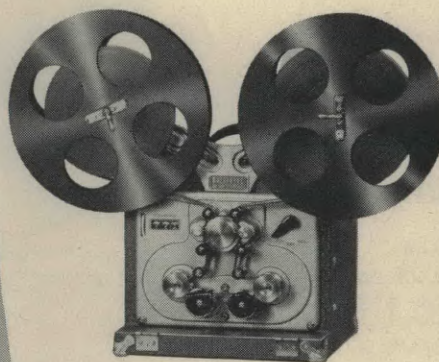
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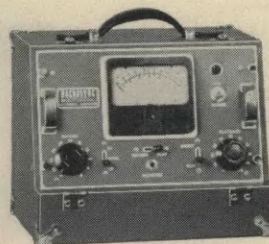
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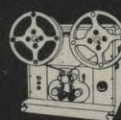
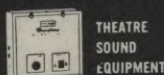
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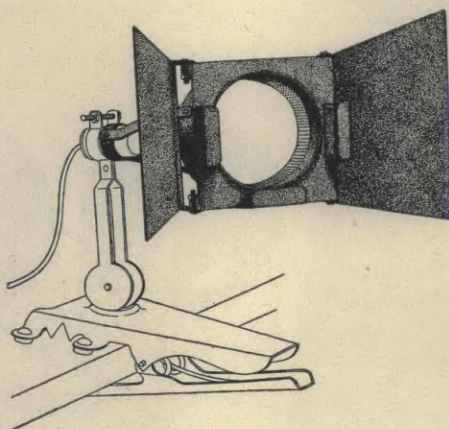
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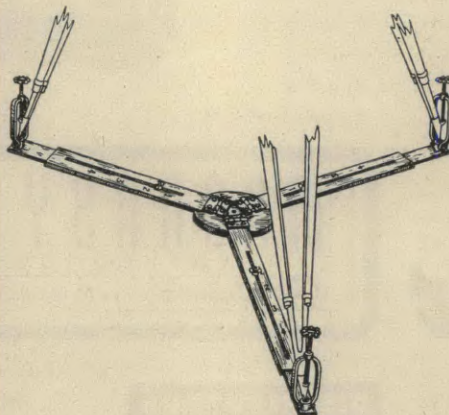
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splice bar when fully heated should be about 105°F., a temperature which feels slightly warm to the touch.

Following is a list of parts that will be required in making this conversion.

- 1 Fenwal 32000 rectangular miniature thermostatic control unit.
- 2 250 ohm, 25 watt, wire wound resistors with mounting brackets.
- 1 6 watt, 15v candelabra bulb, frosted. (Note: this is the same bulb as used in Bell & Howell sound projector pilot lights.)
- 1 Buss type 4405 fuse block.
- 1 Buss type MDL 1/2 Amp Fusetron Fuse.
- 1 115v candelabra socket, long screw slot mounting type.
- 2 ft. high-temperature hookup wire. (See text for substitute.)
- 8 ft. lamp cord, complete with male plug.

Total cost for these parts in radio supply stores is estimated at about \$7.80. You may have to order the Fenwal switch from a Fenwal branch office.

## CREATIVE CUTTING

(Continued from Page 336)

A natural pause in the action is usually a good place to cut, picking up the movement at the same spot in the following scene. It is especially important to match the action closely when a long shot and closeup of continuous movement are both shot from the same angle. In a case such as this, if there is more than a slight discrepancy in the action patterns of the two scenes, a *jump-cut* will result.

If, on the other hand, the shift from long shot to closeup involves a considerable change of angle, you can jump the action ahead several feet without the gap being noticed. Where an awkward gap is unavoidable, lessen the impact by a *cut-in*, a *cut-away shot*, an *optical transition*, or in the case of a silent film, a *sub-title*.

A *cut-in* or *insert*, is a closeup of a segment of the main action. It is one of the best and most natural devices to use in bridging a gap between two scenes because it focuses audience attention closely upon the action of the story.

The *cut-away* is a shot which, as the term implies, literally cuts away from the main action to another segment of the same situation. For example, in a film showing a football game, *cut-aways* would include shots of the crowd, the score board, the band, cheer leaders, etc. Lapses in time can also be covered by effective *cut-aways*.

*Optical transitions* include *dissolves*, *wipes*, *jades*, etc., which, in professional



film production, are made in the laboratory. These devices, in addition to providing a smooth way to change scenes, are useful in smoothing out gaps in time, place or subject—although they should not be used as substitutes for good continuity footage.

*Inter-cutting* is the technique of repeatedly cutting back and forth from one scene to another, either in the same or different locales. This is sometimes very effective as a means of cutting suspense. It is also a good way to cheat the time element since it gives the audience a chance to forget the exact stages of development of the action shown in previous cuts of the scene.

*Tempo* is one of the most important elements to be considered in creative cutting. Applied to the editing process, *tempo* involves variation in pace throughout the film. Pace depends upon two factors: the speed of the action and the length of individual scenes. A pattern of tempo repeated several times lends *rhythm* to your cutting.

Obviously, a slow pace requires slow action and longer individual scenes; whereas rapid pace requires the exact opposite. A relatively slow pace is appropriate for historical scenes, melodramas, mysteries, etc., although one must avoid letting any story drag. Rapid pace is almost a requirement for light comedies, suspense stories and lively action dramas.

We have said that *pace* depends partially upon the length of individual scenes. But, scene length, in turn, depends upon the duration of action in the particular scene. For example, if it takes 20 frames for a man in closeup to turn his head, you can cut that 20 frames into the continuity as a separate scene and it will have a complete and coherent meaning. If, on the other hand, it takes four feet of film for that man to turn his head and you use only 20 frames of the scene, you will have a disembodied fragment of action with no meaning to it at all. If you expect to cut scenes short for rapid pace, be sure that the action within those scenes is rapidly paced.

*Tempo*, as we have pointed out, implies a *variation* in pace. This variation gives light and shade to your screen story. If you proceed at the same rate of pace throughout the film, the story will lack emphasis. Therefore, vary the pace of cutting according to the demands of the sequence.

*Dramatic punch* is a rather colloquial but direct term meaning *cinematic impact*. It is a somewhat elusive expression to define, but the proof of its effectiveness lies in whether or not the audience reacts correctly to the force of the screen situation. By "correctly," we mean: does

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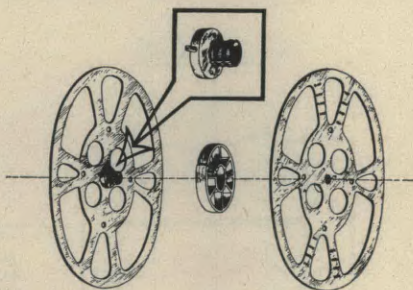
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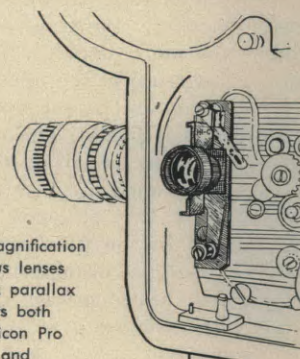
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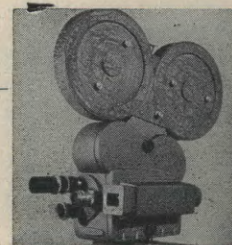
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the audience sit up and take notice at the right times?

*Dramatic punch* is achieved by placing the emphasis of the situation at the proper point in the sequence. While this is primarily a problem of direction, it is even more definitely a matter of deft cutting. All of the tricks of the editor's trade must sometimes be brought into play to insure a definite result.

Generally speaking, the closer we get to a subject, the more emphatic the impression of that subject becomes. For this reason, *image size* has a good deal to do with *dramatic punch*. The closeup is the most emphatic of all angles because it brings the audience face to face with the subject. Use closeups where *punch* is needed in the film narrative. Don't waste them on unimportant details or you will have nothing forceful left to use when you want to make an important statement.

Build up to your climactic scenes by making sure that the scenes which go before lead directly to that climax. It is sometimes effective to begin a sequence with slowly-paced cutting, gradually quickening the tempo and cutting in closer and closer shots until the action develops in the climactic scene. Hit your audience with the important idea; hold the shot just long enough for it to register; then go on to the next sequence.

Avoid forcing *dramatic punch* into your film by means of chopped up *montages* or the kind of radical cutting which highbrows like to call "impressionism." Such vague symbolism may be all right in experimental films made for the chosen few, but it has proved to be merely confusing to the mass audience.

Boiling the whole problem down to its basic essentials, let us say that the real secret of cutting for dramatic punch is to include in a particular scene only as much of the action as can best be portrayed by that particular angle. If you planned your shots carefully before shooting, you will be sure to have enough shots made at different angles to cover your subject in the most emphatic manner.

While good editing cannot in itself *make* a picture, poor editing can very definitely *unmake* it. The surest mark of the rank amateur (next to poor photography and direction) is sloppy, undramatic cutting. On the other hand—deft, forceful cutting can sometimes breathe into prosaic footage a vitality which was not apparent in the rough cut.

Take your time making the final cut. Make sure that you know your footage and the effect you want to place on the screen. Although you are cutting for three separate elements — continuity,

tempo and punch—you cannot arbitrarily separate them, because each is very closely related to the other.

Remember that you are not working with separate, unrelated strips of film; you are working with scenes that should fit together like the stones of a mosaic to produce a dramatic overall pattern. In this process, *association of ideas* plays a vital part. Be on the alert to tie your scenes together by means of the elements they have in common.

In making your final cut, screen your footage again and again, each time concentrating on one of the three important cutting factors. Remember that the smoothest jobs of cutting are the result of gradually whittling down the footage, not haphazard slashing. **END.**

## ARRIFLEX CAMERAS

(Continued from Page 344)

on this page. In this operation, it will be noted, the center of the negative no longer intersects with the lens axis—the difference being 0.48mm.

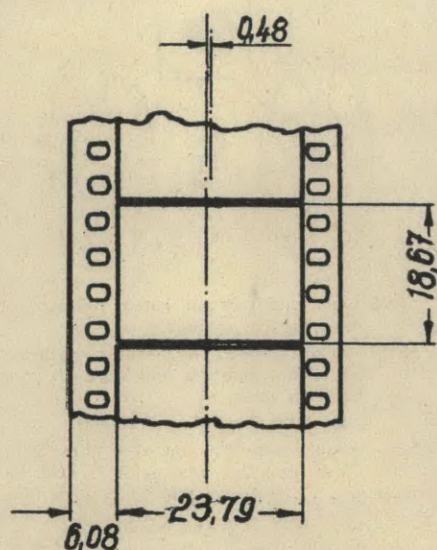


FIG. 4—In adapting the 35mm Arriflex for CinemaScope photography, it is necessary to enlarge film gate aperture as shown here.

To solve this problem, the new single-lens turret plate previously mentioned was engineered. This centers the lens accurately over the enlarged negative area. This new turret plate also incorporates a sturdy cylindrical bracket which holds the CinemaScope lens, and at the same time permits it to be swung out of the way (as shown in Fig. 1) in order to adjust the regular camera lens, with which the CinemaScope is used. This feature may be seen extending out from the camera and adjacent to the CinemaScope lens and matt box in Fig. 2, on page 344.

It is not feasible to modify other optical components of the camera and as a result, the picture area seen in the finder appears slightly smaller than that recorded on the film. The slight difference between the margins of the negative and finder picture areas amounts to 1.08mm on top and bottom, and 0.6mm on both sides. Practical use of the equipment has shown that this difference induces no problem for the cameraman in framing or composing his pictures; he very soon learns to get the "feel" of it.

For those who need to see the picture exactly as it is recorded by the CinemaScope lens, a special finder is available. This may also be seen in Fig. 2, mounted on the square rail extending out from left side of the camera.

The adaptation described above is not offered for conversion of existing cameras. It can be obtained only when ordering a new camera.

The alternative adaptation, which will be of interest to those who already own Arriflex 35mm cameras, is pictured in Fig. 3, and is the result of a request received very early in the CinemaScope planning from the German Fox Movie-tone Newsreel organization. In this adaptation, the film aperture plate is enlarged as in the adaptation described above; but otherwise, no other changes are made in the camera. The CinemaScope lens is held in place before the camera lens by means of a specially designed adapter cradle, which is bolted securely to the tripod socket of the Arriflex camera. The combined unit then is readily mounted on the Arri tripod head. In this adaptation, access to the camera lens for setting and focusing is obtained by sliding the CinemaScope lens forward on the twin rails. Focusing of the CinemaScope lens, of course, is accomplished by moving the lever bar, which may be seen extending upward from the lens in both Figs. 2 and 3.

Besides being a much less expensive installation, this method offers the advantage of using the conventional Arriflex with its three-lens turret for normal filming by simply removing the CinemaScope attachment.

Both the adaptation for standard 35mm Arriflex cameras and the special CinemaScope integrated job are available from Kling Photo Corporation, New York City—sole U.S. distributors of Arriflex cameras and Arri products.

**Most of the 16mm color films** produced during the past 10 years will be suitable for color television, thanks to a new electronic masking amplifier unit developed by the Allen B. DuMont Laboratories. New device was described in a paper read before recent convention of Institute of Radio Engineers in N. Y.





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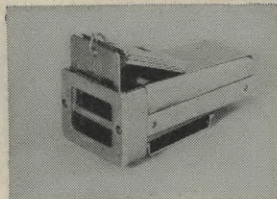
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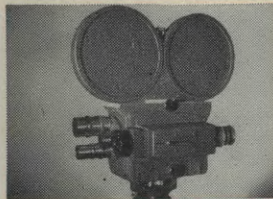
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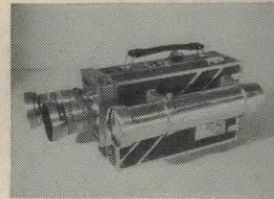
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### FILMING ICE SHOWS

(Continued from Page 346)

and when used on a turret, may often preclude use of other lenses.

One way to get around this is to bring along two cameras — one may be borrowed from a brother cinebug, or rented from your local camera store — and mount a long focal length lens on one and the short focal length lens or lenses on the other. In addition to providing two cameras for a wider range of coverage, it also insures against running out of film at a critical moment. One camera can be loaded while the other is being used, provided of course, two people are filming the show as a team.

When a three- or four-power lens is used, the subject matter should be at the far end of the arena or stage, unless it is possible to change the focusing distance of the lens frequently. This is somewhat impractical, and often difficult to do without inducing a chopping-up of the scene as well as making errors in focusing. Here a penlight flashlight is a necessity in checking lens settings in the subdued lighting of the theatre or auditorium.

The location which the cameraman

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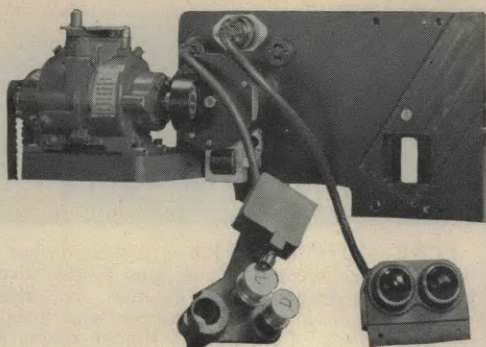
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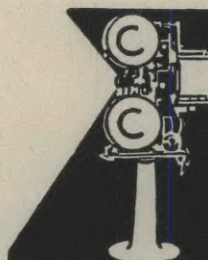
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chooses for his shooting is very important. In a theatre where the seating completely surrounds the ice rink, the first choice should be high up on one side, in the center of the top row of seats. In this location, the cameraman usually can stand as he uses his camera, thus eliminating the bobbing of spectator's heads in front of his camera. There may be occasions when another spectator may rise and obstruct the lens, but the alert cameraman will stop his camera at this point and start a new take after the obstruction passes. Any frames or footage showing a bobbing head or the momentary obstruction of view by a moving spectator should be deleted in the editing.

Second choice for a camera setup is at one end of the theatre or auditorium, and the third choice right down in front, on the ice. The flashing of lights from the spots which are used to light the show invariably rule out the possibility of shooting from a front row position; the light reflections from the ice are not only hard on the cameraman's eyes but on any audience who sees your film. I have seen many films of ice shows shot from such locations that were almost a total loss, as far as interest was concerned. This does not mean that there are no good front row positions from which satisfactory photography can be done. Here again the conditions that prevail in a particular ice rink, auditorium or theatre may differ and camera position will be a matter of discretion on the part of the filmer.

Choice of location also will depend upon the filmer's lens equipment; where he is using a one-inch or one-power lens exclusively on his 16mm camera, then insofar as depth of field of his lens is concerned, the location makes no difference. But it should be remembered that the back row at the far end of an auditorium will not enable such a lens to give much in the way of magnification. Here, use of a two-inch lens would give better results, even though the depth of field would be rather shallow to cover the entire floor.

For the top, back-row position mentioned earlier as first choice, a one- or two-inch lens should give good results; both have good depth of field at the largest stop.

The use of a hyperfocal distance setting is a necessity, particularly when the two-inch lens is used. The one-inch lens may be set on the 50-foot mark, or if the lens has a depth of field scale it can be set at 25 or 50 feet on the near side and at infinity on the far side. When the two-inch lens is used, the setting should be at 75 feet hyperfocal, which would be at 50 feet near side and 100 feet far side. This is my practice when using a two-inch Eastman f/1.6 lens.

Where adaptors are used in fitting a



lens to a cine camera, one must be certain that the adaptors are of the correct size. It is an easy matter to check adaptors where the camera affords through-the-lens focusing, as does the Bolex. This is done by making visual checks through the lens of objects at various distances, say, 50, 75, and 100 feet from the camera. The need for such checking I learned the hard way, when I once wasted a 400 foot roll of film on a show because my lens was not properly adjusted.

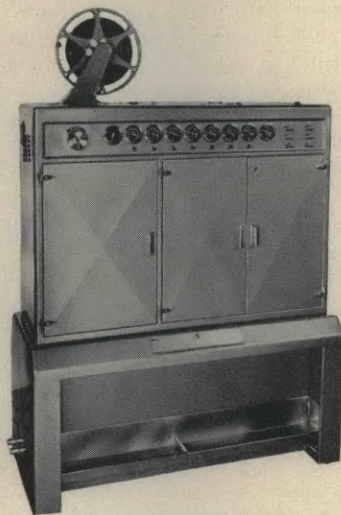
Choosing the right f/ stop for filming an ice show is very important both for black-and-white and color films. While the exposure settings for color film exposed at 16 fps will be discussed here, the lens stops to be used with black-and-white film can readily be determined by comparing the ASA tungsten rating of the B&W film with that for Type A Kodachrome shown below.

Obviously theatres and auditoriums in which ice shows are staged will vary considerably in the number of lights available for the shows, and there is the additional factor of distances of lights to the ice surface or point of the show, which invariably change from auditorium to auditorium and thus alter the intensity of the light falling on the performers.

When I have filmed local ice shows, I invariably found a stop of f/1.4 to

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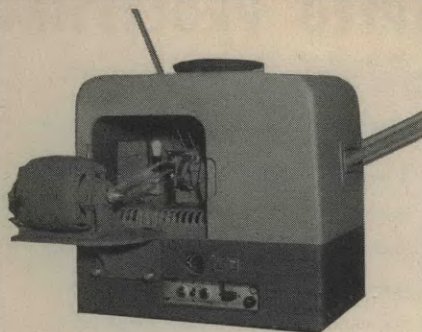
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f/1.9 gave good results with Type A Kodachrome. Sometimes it was possible to shoot at f/2.5, but there was always the danger of underexposure.

Still other factors that govern photographic results are the color of the lights and the color of the costumes used. If spotlights are used predominantly instead of floodlights, there will be greater light intensity, and the filmer must consider this in setting his exposures.

The tables given below are based on the use of white light for auditorium illumination and dark costumes of average color density. Thus, white is intended to be white. The "light" category includes colors such as light blue, grey, tan, pink, bright red, etc. In the "dark" column we consider black, oxford or charcoal grey, deep blue, dark brown, etc. The figures in each column indicate the f/stops for use with Type A Kodachrome at 16 fps.:

Lighting	Average Costumes		
	White	Light	Dark
White spots	2.5	1.9	1.5
Lt. colored spots	1.9	1.5	—
Dk. colored spots	1.5	—	—
White flood	1.9	1.5	—
Colored flood	1.5	—	—

Some, of course, may wish to shoot ice show scenes at 24 fps instead of sixteen. Obviously, this will place further limitation on the exposure latitude for color film and could result in some underexposure. The exposures for shooting Type A Kodachrome at 24 fps are indicated in the table below, and can be compared with the figures in the preceding table:

Lighting	Average Costumes		
	White	Light	Dark
White spots	2	1.6	1.3
Lt. colored spots	1.6	1.3	—
Dk. colored spots	1.3	—	—
White flood lights	1.6	1.3	—
Colored flood lights	1.3	—	—

The above figures are based on the average lighting of a theatre or auditorium stage which is considered well-lighted, although not necessarily adequately lighted. There have been instances where film has been exposed in one ice show location at f/2.5 with good results, yet to get comparable results filming the same scenes of the show in another auditorium would require an exposure of f/1.9.

Actually, the successful filming of an ice show will depend a great deal on the photographer's ability to judge the quality and volume of the light, and to expose accordingly. Some theatres as well as some shows will be better lighted than others. Even where an ice show returns to the same theatre each year with a new show, there is every chance that the lighting will be different. So the amateur filming an ice show for the first time can do one of two things: he can get first hand exposure information from more experienced cine cameraists, or he can start off slowly, filming a little carefully, and not try to get the whole show the first time.

One of the best scenes in an ice show that I ever photographed, and in 8mm color, too, was of a stilts skater wearing a red and white "Johnny Walker" cos-



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tume. Very early I learned what colors in ice show lighting and costumes photograph best. Blue and dark brown are very misleading and quite difficult to photograph with any success. Black is not too difficult if properly backgrounded with a lighter color and illuminated by spots or concentrated beams of light.

The filmer with a questionable lens or shooting under questionable light conditions would do well to skip the dark-costumed scenes and those not fully illuminated, and concentrate on filming only the brightly-lit show numbers. Usually there are enough numbers of this kind to provide footage for a subject of interesting length. He will leave the really tough scenes go until he has gained more experience in filming the subject.

The use of a meter to determine proper exposure for filming ice shows is just about out of the question. This is because the lighting changes frequently and varies between a wide range of levels. Obviously this poses a serious exposure problem. But if the exposure tables above are used as a point to start from, the ice show filmer will be on safe ground. It should be emphasized here again, that these exposures are only tentative. Because light conditions prevailing in the Ice Capades show in Los An-

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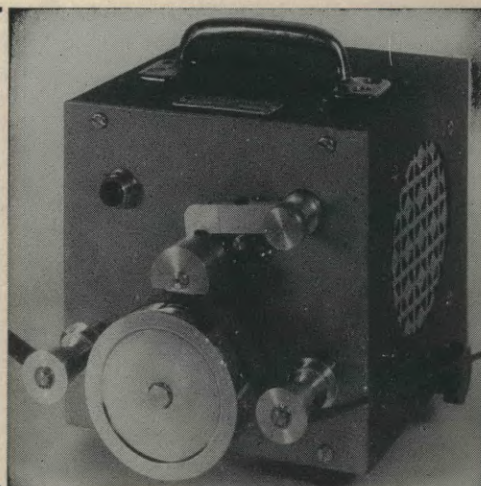
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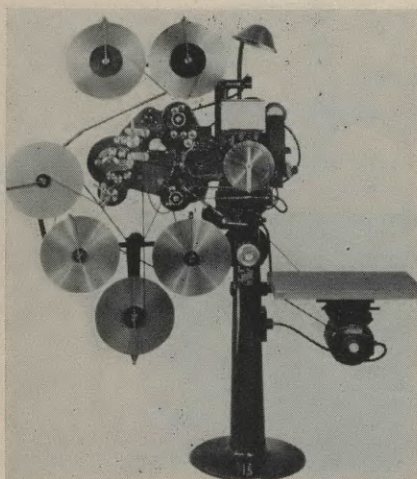
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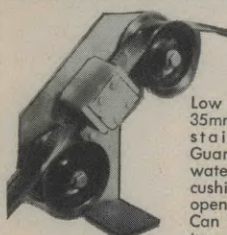
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geles probably differ widely say, from those which prevail when the show is put on in Chicago, it would be misleading to say that a given exposure figure would be valid for scenes filmed in both locations.

As may be seen from the above tables, there will be times when the photographer will find it impractical to film certain acts of a show, unless, of course he can afford to gamble a little film on experimental exposures.

Because pre-planning will pay off in a much better film, the same as when

filming other subjects, it is advisable that the cine filmer attend the show more than once—first, without his camera, at which time he will analyze the show for its lighting and spot his camera setups or positions; the second time to actually film the show, based on plans made on the first visit. Where possible, he should make arrangements in advance with the management for certain privileges that will enable him to shoot from the most desirable seat or vantage point, or to move about with his camera at will.

**SHOOTING IN CINEMASCOPE AND WIDE-SCREEN**

*(Continued from Page 339)*

on the opposite side of the street. Key lights were mounted on the camera car that moved along the street and followed the singing Keel.

Some indication of the production scope of "Seven Brides for Seven Brothers" may be seen in two vastly differing sets used in the picture. One took up the entire 23,000 square feet of M-G-M's Stage 29. Dressing rooms, makeup tables and mirrors, and all spare equipment normally fringing the sets on a sound stage, had to be parked outdoors. In the corridor between the stages special "big top" tents were erected to house the makeup and wardrobe facilities, and trailers were parked nearby to provide accommodations for the cast.

This huge set, erected for the "Barn Raising" sequence of the picture—actually a combination of old-fashioned hoe-down, barn raising, and a spectacular free-for-all brawl—called for nearly a quarter of a million watts in lighting, more than used on any previous M-G-M film. Twelve overhead batteries of sky lights, each holding in its aluminum reflector ten 1,000-watt photolamps, were augmented by 85 K-10 lamps of 10,000 watts each plus 47 K-5's.

The tremendous heat generated by this great volume of light units kept the studio air-conditioning plant working overtime in an effort to keep the stage temperature at a workable level. Even so, readings of 98 degrees F were common, but not popular, center stage.

Such an array of overhead lighting equipment naturally posed a communications problem for gaffer Fenton Hamilton and his assistants and the electrical crew working on the catwalks overhead. This was met easily by Hamilton who employed a relatively new innovation of the sound stage—a compact miniature two-way radio system.

The transmitter, virtually a miniature radio station, consisted of a microphone,

transmitter and batteries—the unit weighing around six ounces. Resembling a hearing aid case, it is worn around the neck. Speaking through the microphone, gaffer Hamilton's instructions were broadcast and picked up by a series of thirty-five 4-inch speakers spaced at intervals around the catwalks. The little broadcasting set has a carrying range of 600 to 800 feet—ample for use within the largest sound stage. The system was used earlier during the filming of "The Student Prince" and "Brigadoon," shooting on adjacent sound stages. The transmitters on each production were set to operate at different frequencies to prevent one interfering with the other.

So sensitive are these tiny transmitters that the user need only speak in a whisper. An uninitiated extra unaware of this, stopped me one day with the observation: "The gaffer has blown his top. Been talking to himself for the past hour!"

In shooting the big "Barn raising" sequence, our only problem camerawise arose from the spectacular dance routines created by choreographer Michael Kidd—dances that were basically violent ballet. In a nutshell our problem involved keeping the dancers within camera range both vertically and horizontally. Much of this was accomplished by shooting from a very high angle or from ground level—especially when we had to capture the high leaps and acrobatics of some of the dancers.

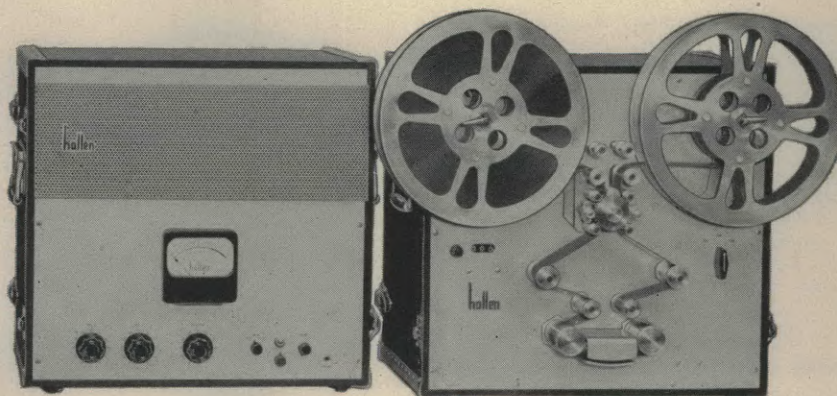
The big dance number ran for twelve minutes and was climaxed by the "big brawl." Because any retakes would have been long and costly and especially because they would have necessitated the complete rebuilding of the barn (which was demolished in the brawl), we used four cameras simultaneously in shooting the long and medium shots—two CinemaScope and two wide-screen. Another consideration, I understand, was the



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possibility of injury to members of the cast, especially because all the principals were performing their own stunts.

By contrast, Stage 25—where we filmed the mood number "Lament"—called for many controlled gradations of light. The setting was a snow-covered meadow on a dreary winter day—the number beginning in a gray overcast and gradually achieving full sunlight. Director Stanley Donen, in a last minute decision, decided that we should film the entire number without a cut. This we did. The operation involved 17 camera moves, 80 feet of dolly track, and use of the studio's large RO boom.

It worked beautifully, gave an uninterrupted "flow" to the number, nervous prostration to the operators, and called for a series of backstage signals rivalling anything ever dreamed up by Knute Rockne. Large shutters, resembling giant venetian blinds, were hung from the catwalks in front of the set lighting units. Operated on cue, these provided a simple yet effective method of varying the light. On the screen this is a simple scene, apparently effortless, yet all six principals involved moved constantly to and fro over the entire set.

Shooting with two cameras—one CinemaScope and one wide-screen—

(Continued on Page 363)

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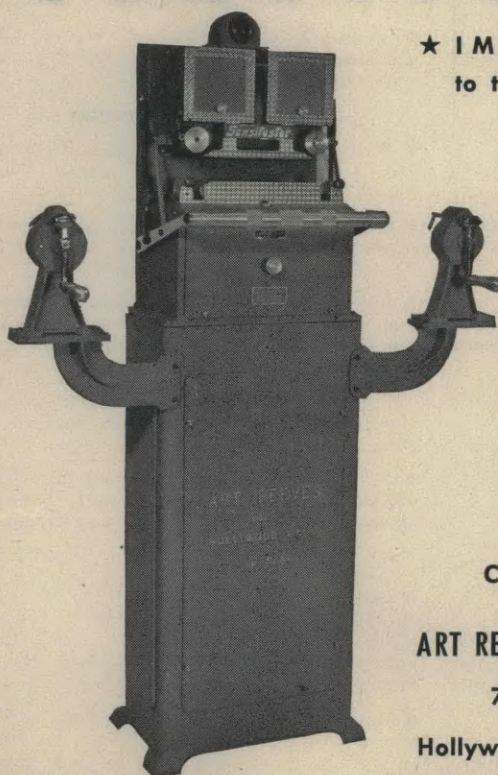
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• ELLIS CARTER, "The Police Story," with Gary Merrill and Jan Sterling. Joe Neuman, director.

### COLUMBIA

• LESTER WHITE, "Wyoming Outlaws," with Phil Carey and Gene Evans. Fred F. Sears, director.

### METRO-GOLDWYN-MAYER

• JOHN SEITZ, "Many Rivers To Cross," (Eastman Color; CinemaScope) with Robert Taylor and Eleanor Parker. Roy Rowland, director.

• ARTHUR E. ARLING, "The Glass Slipper," (Eastman color; wide-screen) with Leslie Caron and Michael Wilding. Charles Walters, director.

• GEORGE FOLSEY, "Deep In My Heart," (Color; CinemaScope) with Jose Ferrer, Donna Reed and Merle Oberon. Stanley Donen, director.

• PAUL VOGEL, "Jupiter's Darling," (Eastman color; CinemaScope) with Esther Williams and Howard Keel. George Sidney, director.

### PARAMOUNT

• LIONEL LINDON, "Love Is A Weapon," (Technicolor; VistaVision) with John Payne and Mary Murphy.

• LOYAL GRIGGS, "We're No Angels," (Technicolor; VistaVision) with Humphrey Bogart and Joan Bennett.

• ROBERT BURKS, "To Catch A Thief," Technicolor; VistaVision; shooting in France) with Cary Grant and Grace Kelly. Alfred Hitchcock, director.

• DANIEL FAPP, "Run for Cover," (Technicolor; VistaVision) with James Cagney and Viveca Lindfors. Nicholas Ray, director.

### REPUBLIC

• JOHN L. RUSSELL, JR., "The Atomic Kid," with Mickey Rooney and Elaine Davis. Leslie Martinson, director.

### R.K.O.

• JOSEPH LA SHELLE, "The Conqueror" (Color; CinemaScope) with John Wayne and Susan Hayward. Dick Powell, director.

• WILLIAM SNYDER, "The Americano" (Technicolor) with Glenn Ford and Ursula Thiess. William Castle, director.

### 20TH CENTURY-FOX

• LEON SHAMROY, "There's No Business Like Show Business," (Color CinemaScope) with Ethel Merman and Donald O'Connor. Walter Lang, director.

• CHARLES G. CLARKE, "Black Widow," (Color; CinemaScope) with Ginger Rogers and Van Heflin. Nunally Johnson.

• MILTON KRASNER, "Desiree," (Color; CinemaScope) with Marlon Brando and Jean Simmons. Henry Koster, director.

### UNIVERSAL-INTERNATIONAL

• WILLIAM DANIELS, "Five Bridges To Cross," with Tony Curtis and Julia Adams. Joseph Pevney, director.

• CLIFFORD STINE, "Smoke Signal" (Technicolor; wide-screen) with Dana Andrews and Piper Laurie. Jerry Hopper, director.

• IRVING GLASSBERG, "Captain Lightfoot," (shooting in Ireland), with Barbara Rush and Jeff Morrow. Douglas Sirk, director.

• HAROLD LIPSTEIN, "Chief Crazy Horse," (Technicolor; CinemaScope) with Victor Mature and Suzan Ball. George Sherman, director.

• R. L. METTY, "Man Without A Star," (Technicolor; wide-screen) with Kirk Douglas and Jeanne Crain. King Vidor, director.

### WARNER BROS.

• LEE GARMES and RUSSELL HARLAN, "Land of the Pharaohs," (WarnerColor), CinemaScope; shooting in Egypt) with Jack Hawkins and Dewey Martin. Howard Hawks, director.

• HARRY STRADLING, "Helen of Troy," (WarnerColor, CinemaScope; shooting in Italy) with Rossana Podesta and Jacques Sernas. Robert Wise, director.

• TED McCORD, "East of Eden," (Warner Color; CinemaScope) with Julie Harris and Raymond Massey. Elia Kazan, director.

• WILLIAM SKALL, "The Silver Chalice," (WarnerColor; CinemaScope) with Virginia Mayo and Jack Palance. Victor Saville, director.

• J. PEVERELL MARLEY, "Drum Beat," (WarnerColor; CinemaScope) with Alan Ladd and Audrey Dalton. Delmer Daves, director.

• SID HICKOX, "Drum Beat," second unit.

• WILFRED CLINE, "Tall Man Riding," (WarnerColor) with Randolph Scott and Paul Richards. Lesley Selander, director.

### INDEPENDENT

• CARL GUTHRIE, "Long John Silver," (Joseph Kaufman Prod.—Technicolor; wide-screen—shooting in Australia) with Robert Newton and Connie Gilchrist. Byron Haskin, director.

• BURNETT GUFFEY, "Private Hell 36" with Ida Lupino and Steve Cochran. Don Siegel, director.

• RAY JUNE, "Day of Triumph," (Eastman color, wide screen) with Lee J. Cobb and Joanne Dru. Irving Pichel and John T. Coyle, director.

• GILBERT WARRENTON, "The Black Pirates," (Anso color; wide-screen) with Anthony Dexter and Lon Chaney. Allen Miner, director.

• HAROLD WELLMAN, "The Long Chance," with Paul Langton and Barbara Peyton. Edgar Ulmer, director.

## TELEVISION

(The following directors of photography were active last month in photographing films on television in Hollywood, or were on contract to direct the photography of television films for the producers named.)

• LUCIEN ANDRIOT, "Public Defender," series of half-hour films for CBS, starring Reed Hadley for Hal Roach Jr. Prods. (Philip Morris) and "Meet the O'Briens," series of half-hour films, Roland Reed Prods. at Hal Roach Studios.

• JOSEPH BIROC, "T-Men In Action" series half-hour dramas starring John Stephens for Procter Tele Ents. (ABC)

• NORBERT BRODINE, "Letter To Loretta" series of half-hour dramas—D.P.I., starring Loretta Young. (Procter & Gamble), RKO-Pathe studio, "In Between" series of half-hour dramas for Lewislors Enterprises and "Life of Riley" series half hour films, Roland Reed Prods., at Hal Roach Studios.

• GEORGE DISKANT, "Four Star Playhouse" series of half-hour dramas, featuring various stars, for Four Star Productions, RKO-Pathe Studio. (Singer Sewing Machines.)

• E. B. DUPAR, "Fresh From Paris," for Mercury International.

• KARL FREUND, "I Love Lucy" series of half-hour comedies starring Lucille Ball and Desi Arnaz, for Desilu Productions; (Philip Morris).

• ALFRED L. GILKS, "Halls of Ivy," series of half-hour dramas starring Ronald Colman and Benita Hume for Hall Prods., Inc., at Motion Picture Center.

• BENJAMIN KLINE, "Fireside Theatre" series of half-hour dramas for Frank Wisbar Prods., Inc., at American National Studios (Procter & Gamble).

• WILLIAM MELLOR, "Adventures of Ozzie and Harriet" series of half-hour comedy dramas starring Ozzie Nelson and Harriet Hilliard for Stage Five Prods., Inc., General Service Studios. (ABC).



● VIRGIL MILLER, "You Bet Your Life," weekly half-hour audience participation shows, featuring Groucho Marx, for Filmcraft Prods., NBC Studios. (DeSoto-Plymouth).

● HAL MOHR, "The Joan Davis Show" series of half-hour comedy-dramas starring Joan Davis for Joan Davis Enterprises, General Service Studios. (NBC).

● NICK MUSURACA, "The Lone Wolf," starring Louis Hayward, series of half-hour dramas (UTP) for Gross-Krasne, Inc., at California Studios.

● KENNETH PEACH, "Adventures Of The Falcon" series of half-hour dramas starring Charles McGraw at Federal Telefilm, Inc. (NBC)

● ROBERT PITTAKE, "Private Secretary" series of half-hour comedy dramas starring Ann Sothern and Don Porter, (Lucky Strike) and "The Lone Ranger" series of half-hour dramas starring Clayton Moore and Jay Silverheels for CM-TV Prods. Inc., (General Mills).

● JOHN L. RUSSELL, JR., "Joe Palooka," series of half-hour comedy-dramas starring Joe Kirkwood and Cathy Downs for Guild films.

● WILLIAM SICKNER, "The Whistler," with Paul Kelly and Ann Doran. (Pilot) Lindsley Parsons Prods.

● MACK STENGLER, "Life With Elizabeth" series of half-hour dramas; "The Liberate Show," half-hour musical film series; "Florian Zabach Show," series of half-hour musical films and "The Frankie Laine" show, series of half-hour musicals starring Frankie Lane for Guild Films.

● HAROLD STINE, "Cavalcade of America" series of half-hour dramas and "This Is Your Music" for Jack Denove Prods., Inc., Samuel Goldwyn Studios (DuPont).

● WALTER STRENCE, "Waterfront" series of half-hour dramas starring Preston Foster and Lois Moran (UTP) at Hal Roach Studios.

● PHIL TANNURA, "The Burns and Allen Show" series of half-hour comedies starring George Burns and Gracie Allen, for McCadden Corp., General Service Studios. (Carnation Milk and Goodrich and "The Jack Benny Show," starring Jack Benny. Al Simon Prods.

● STUART THOMPSON, "Lassie," series half-hour dramas (color) for Maxwell Prods. (Campbell Soups).

## CINEMASCOPE AND WIDE-SCREEN

(Continued from Page 361)

simultaneously on the same set involved little or no additional problems, except when shooting closeups, and then we would shoot with one camera, move out, and move in with the other for a duplicate shot. Setting up two cameras side-by-side takes a few additional minutes time, but the overall benefits are well worth the effort. Where it was physically impossible to muscle in with the second camera, the "Old Pros," as the CinemaScope crew dubbed themselves, would get their shot then back out quickly with the cheerful call for the wide-screen boys, "Time for Beany!"

This happy spirit of competition and camaraderie that prevailed at all times

during production of "Seven Brides for Seven Brothers" is to me convincing proof of the theory that the easiest and most efficient method of working on a sound stage is to harness the collective intelligence of everyone on the stage, blend it, and channel it into one stream. That is the kind of teamwork we had on this picture, with everybody—grips, electricians, props, and others—all apparently inspired by the rollicking spirit of the story.

## CASE HISTORY OF A FILM PRODUCTION

(Continued from Page 343)

sageways. Stone construction was imitated by use of squares of wallboard and other materials. Walls, columns, and an archway were first put together from large sheets of wallboard. Next, squares of corrugated cardboard and scrap wallboard were cut to shape and glued to the flats to represent stone construction. Above this was fastened a layer of newspapers soaked in wheat paste. In experimenting, Papin found that gray Bondex (a water-soluble powdered paint) mixed in a thick paste with some lampblack gave a realistic stone gray finish to the castle pieces.

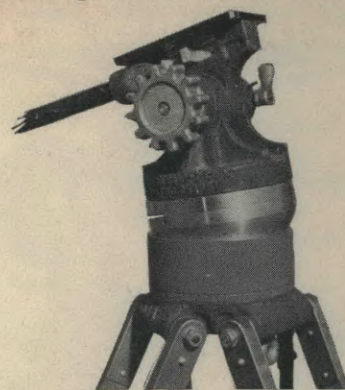
A suit of armor, seen but not worn, was constructed from wire screen, papier maché, and metallic paint. Low-key sidelighting in the photography disguises its plebeian origin. Castle set pieces were shifted and interchanged about between takes to reproduce a variety of settings. For instance, the same archway was seen once with a door, again as a small wall recess with another wall flat behind it, and later with a stairway leading through it. Changes in lighting patterns and camera angles helped disguise the repetitious use of set components.

Papin shoots his black and white pictures (which include "The Great Light") on Eastman 16mm Plus-X blue-base reversal film. The original is cut to A-B rolls, from which a dupe release negative is made, incorporating fades and dissolves. A commercial lab handles this work, although Papin does develop short lengths of film himself when special effects are involved. For effects work, he has a Micro daylight film developer and a Hollywood Jr. printer. Lighting equipment includes B. & M. junior spots and Colortan sets. When occasion demands, other camera and grip equipment is rented to augment the work of the company's Cine Special.

"The Great Light" is Gospel Films' eighth release. The company's first two productions, "Forgotten Valley" and

(Continued on Next Page)

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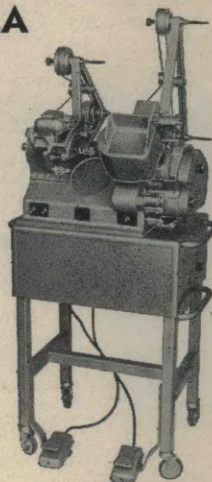
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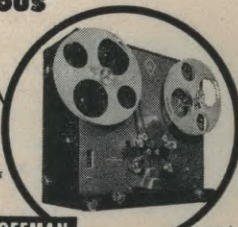
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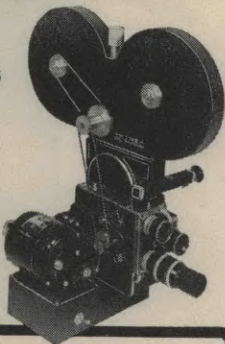
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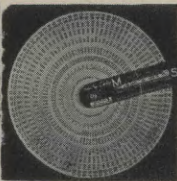
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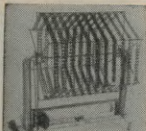


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## CASE HISTORY OF A FILM PRODUCTION

(Continued from Page 363)

"Regions Beyond," made about three years ago by Stan Taylor and Ken Anderson, are still in active demand. Taylor left the organization to produce independently, and his "Call of the Navajo" is distributed to church groups by Gospel Films. Ralph Papin joined the firm to continue the work with Anderson. This team's first production, "Counter Attack," dealt with juvenile delinquency. Then followed "Betrayed," a 45-minute dramatic story about youth in some difficult situations. "Call of the East" and "Korea," while carrying the company's name, were shot outside the country by missionaries and released by the firm. As a change of pace, an industrial picture for a toolmaking company, "Tools for Living," was produced before work on "The Great Light" began.

Gospel Films also distributes its own pictures, and the returns from film rentals and print sales underwrite the cost of new productions. An office in Belfast,

North Ireland, has been established for European evangelists using the company's films. An unusual sidelight to the rental activities is the distribution for regular projection of kinescopes of "Youth on the March" television programs. These are probably the only kinescopes in the country being rented as motion picture shorts.

Before establishing Gospel Films, Ken Anderson wrote many popular Christian adventure books for children, was managing editor of the "Youth for Christ" magazine, and worked on a film at the Youth Haven camp ground in Michigan. Ralph Papin has received an M. A. degree from the University of Southern California's Cinema Dept. Before this graduate college study, he was a still and movie aerial photographer in Alaska, and a U. S. Air Force cameraman. He photographed documentary footage for inclusion in the Protestant Film Commission's "Again Pioneers" while attending U.S.C.

## TRI-X, NEW EASTMAN HIGH SPEED FILM

(Continued from Page 335)

### TABLE I

#### General Specifications

Exposure Index: Daylight 250 Tungsten 200  
Development in Kodak Test Developer SD-28 to gamma of 0.65

These values are suitable for use with Weston, General Electric and similar exposure meters with or without the calculators for ASA Exposure Indexes. The exposure required will depend upon the processing techniques used and the values and data given should be considered as a preliminary guide, subject to revision on the basis of tests processed with the actual formulas to be used.

Because of the high speed of this material and the limited sensitivity of some meters, it should be noted that adequate exposure may often be obtained even when the illumination is so low that a reading cannot be obtained with the meter, especially when reflected light measurements are made. Under such circumstances, proper exposure must be determined on the basis of actual tests.

*Illumination (Incident Light) Table For Tungsten Light:* Shutter speed approximately 1/50 second—24 frames per second.

Lens Apertures	f/1.4	f/2.0	f/2.8	f/4.0	f/5.6	f/8.0
Number of foot candles required	13	25	50	100	200	400

#### Filter Factors:

Kodak Wratten Filter	#3	#8	#12	#15	#21	#23A	#8N5	#25	#29
Filter Factor for Sunlight	1.5	2.0	2.5	3	3.5	5	5	8	25

*Recommended IIB Control Gamma:* 0.60 to 0.70

*Base:* Gray safety

*Safelight:* Total darkness. After development is one-half complete, a Kodak Safelight Filter, Wratten Series 3, can be used with a 15-watt bulb at not less than 4 feet. The total exposure should

not exceed the equivalent of a few seconds at 4 feet.

*Identification:* The letter C is printed just before the footage number on 35mm only.



## 16mm Film Production Is Now Big Business



TELEFILMS STUDIOS' production crew is shown here shooting a scene for one of company's earlier 16mm color productions for Catalina Swim Suits. Recognize the blonde model? It's none other than Marilyn Monroe—before she became a popular Fox star.

IN HOLLYWOOD, "The Battle of the Dimensions" continues among the major motion picture studios with flamboyant claims being made to the press and exhibitors. But while the "scopes," trick cameras, lenses and sound systems vie for top position, another phase of filmmaking—the industrial side—rolls serenely on its way, turning out thousands of 16mm pictures every year for big business.

The boom has its roots in the widespread use of government training films during World War II. Industry quickly adopted the idea as an aid to training salesmen or familiarizing dealers and consumers with new models and products.

Today, these films, telling the story of American business, have an audience numbering in the millions. They are shown before conventions, industrial audiences, business groups, social clubs, on television and in schools and colleges. In some rural theaters, they are booked as regular features.

James Kemper, President of Lumberman's Mutual Insurance Company, revealed that a film made for his firm has been viewed by more people than have seen "Gone With The Wind," Hollywood's all-time top entertainment grosser!

All this, of course, has sparked a new and still growing industry in its own right. In 1946, fewer than 150 such movies were ground out by 10 or 12 struggling companies. This year, over 200 companies—most of them fat and thriving—will turn out over 4,000 films.

Not bad when you consider the cost of one 30 minute 16mm film in black and white costs anywhere from \$3,000 to \$60,000. Color runs about 25% more.

Financial health of these studios, however, isn't all due to industrial pictures.

Joe Thomas, president of Telefilm Studios Inc. (one of the nation's four largest producers and processors of industrial films), points out that being small, they are versatile. A Telefilm Studio sideline, for example, is making screen tests for major studios. Probably their most well-known test was of Jane Russell for "The Outlaw" over twelve years ago.

Thomas, who helped pioneer the industry in 1938, says technical improvements have kept costs at about where they were at the beginning. His own firm takes credit for first utilizing twin-camera filming, now standard in television, and for perfecting a commercially acceptable method for putting sound on 16mm film.

And Thomas's diversified clients show that "Everybody's getting into the act." The Telefilm lab processes, edits and applies sound tracks to films for a missionary in Australia, a coffee grower in Brazil, a white hunter in South Africa and an Indian prince as well as countless business, large and small, throughout the United States.

### CUKOLORIS

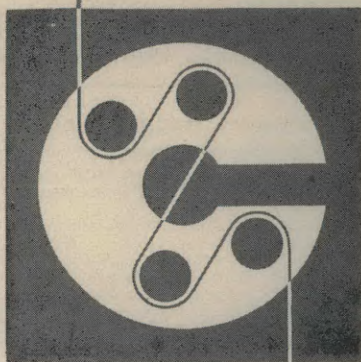
(Continued from Page 333)

Again in the lower photo on the same page, the cukoloris lighting effect can be seen splotching the area above the arches in the background, lending a most dramatic effect pictorially. It is an effect, perhaps, which does as much to lend an aura of naturalness to a set lighting scheme as any factor, indeed any other tool, in the technique of set lighting.

It is possible, of course, for a director of photography to go overboard in the use of the cukoloris; restraint must be exercised both to gain the most subtle effects and in order not to exhaust the possibilities of the device through overuse.

In this respect I am reminded of a grip—the studio's term for a stagehand—I once knew who was the most confirmed disciple of the cukoloris technique I had ever met. His proficiency in cutting out cukoloris matched his enthusiasm for their use, and ultimately those he turned out assumed weird and sometimes almost frightening shapes. Thus he came to expect his "cookies" to be used in every production and on every set, and would sulk openly if they were not.

Which is what can happen to a guy who goes "queer for cukoloris" after awhile!



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